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AMBER NECTAR

Halcro Eclipse Stereo – thunder down under?

Classic Klipschorn

Historic horns, heroic sounds

PrimaLuna Phono

The all-tube MM/MC EVO 100

SPL Diamond

Compact 'VOLTAIR' DAC

New Denon duo

DCD-1700NE SACD player and PMA-1700NE amp

VINYL ICON

ECHO & THE BUNNYMEN
OCEAN RAIN

PLUS...

Totem Bison Monitor, Audio-Technica ART20 & B&W 803 D4

VINTAGE REVIEW

JVC UX-1

1990s micro system

• **OPINION** 12 pages of letters and comment • **VINYL RELEASE** Small Faces' *Small Faces* on 180g LP
• **CLASSICAL COMPANION** Duruflé *Requiem* • **STUDIO TOURS** The Record Plant – beyond New York
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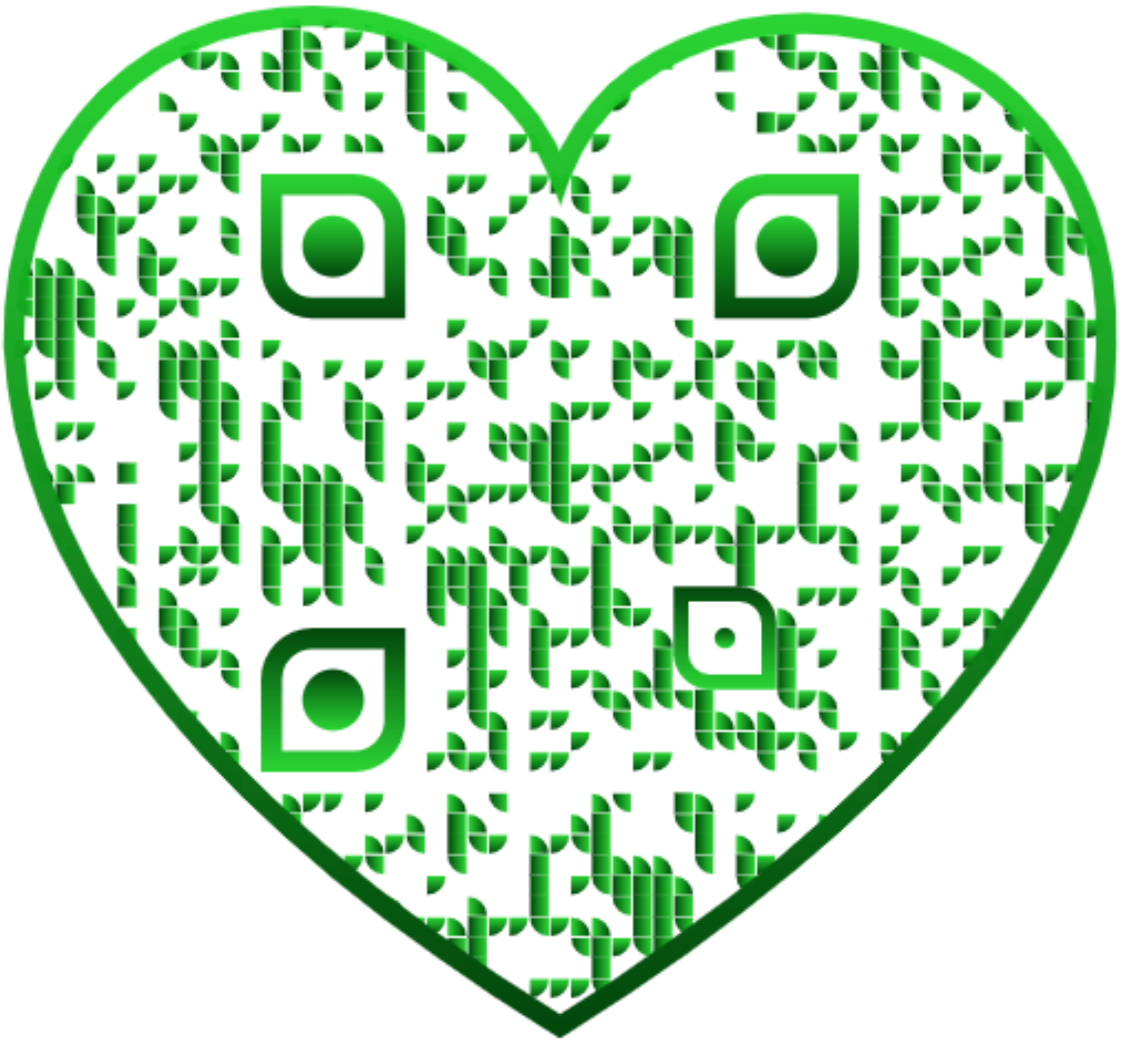

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▶ Turn the page to see layout diagrams that illustrate this system building versatility.

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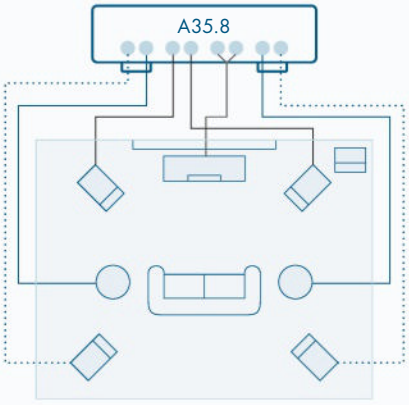
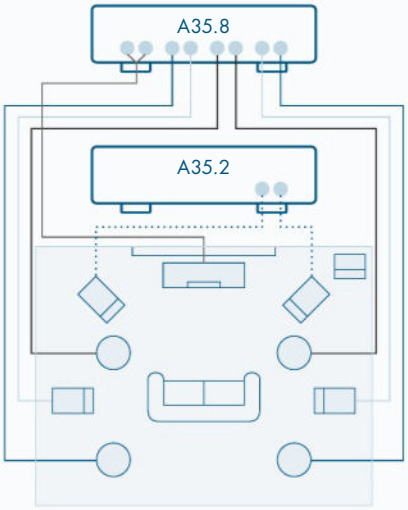


5.1.4 ATMOS/DTS:X SYSTEM



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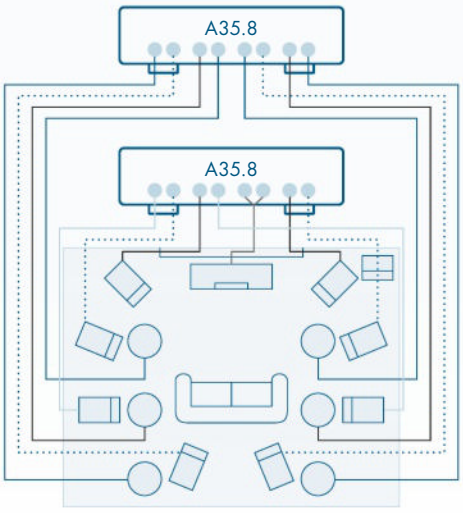

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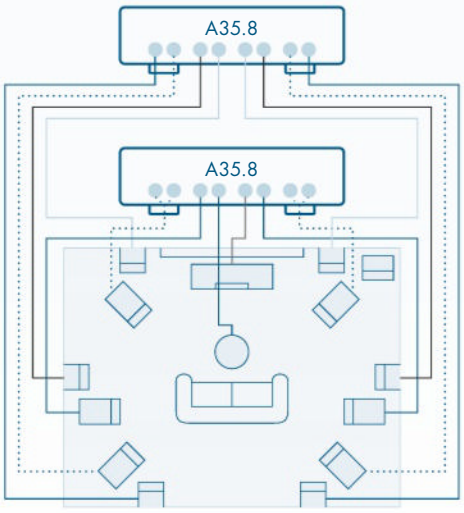

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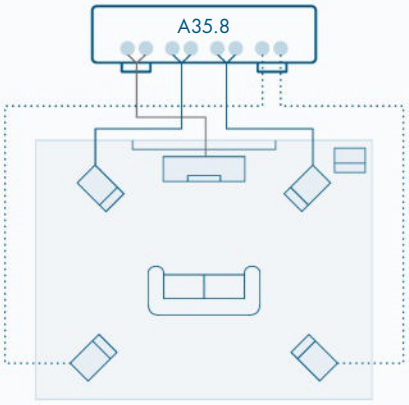

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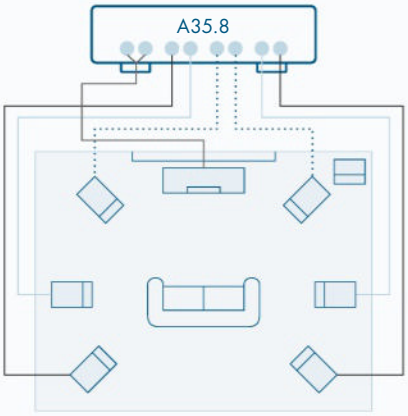

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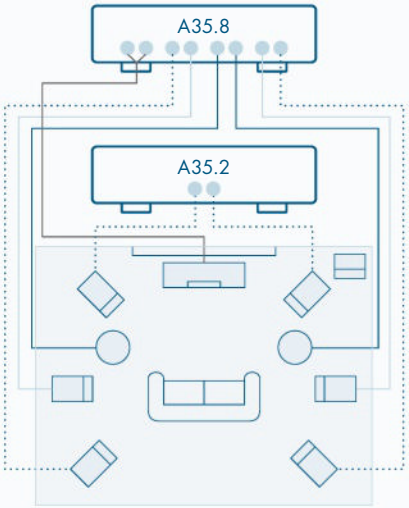
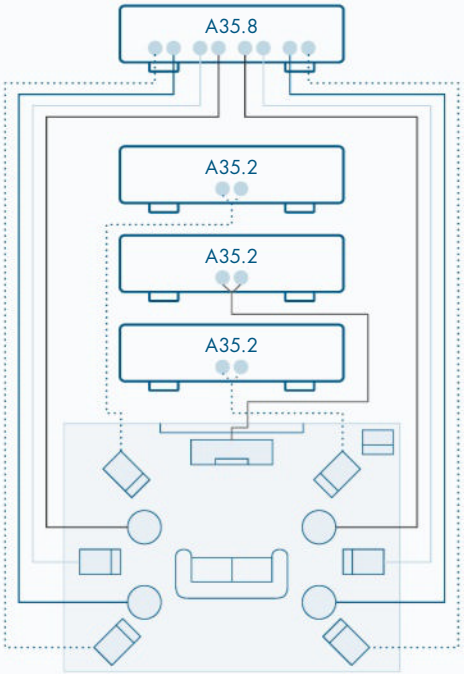
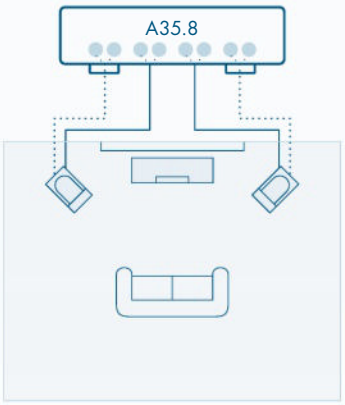


7.1.4 HIGH-POWER ATMOS/DTS:X SYSTEM



2.0 BI-AMPED STEREO SYSTEM



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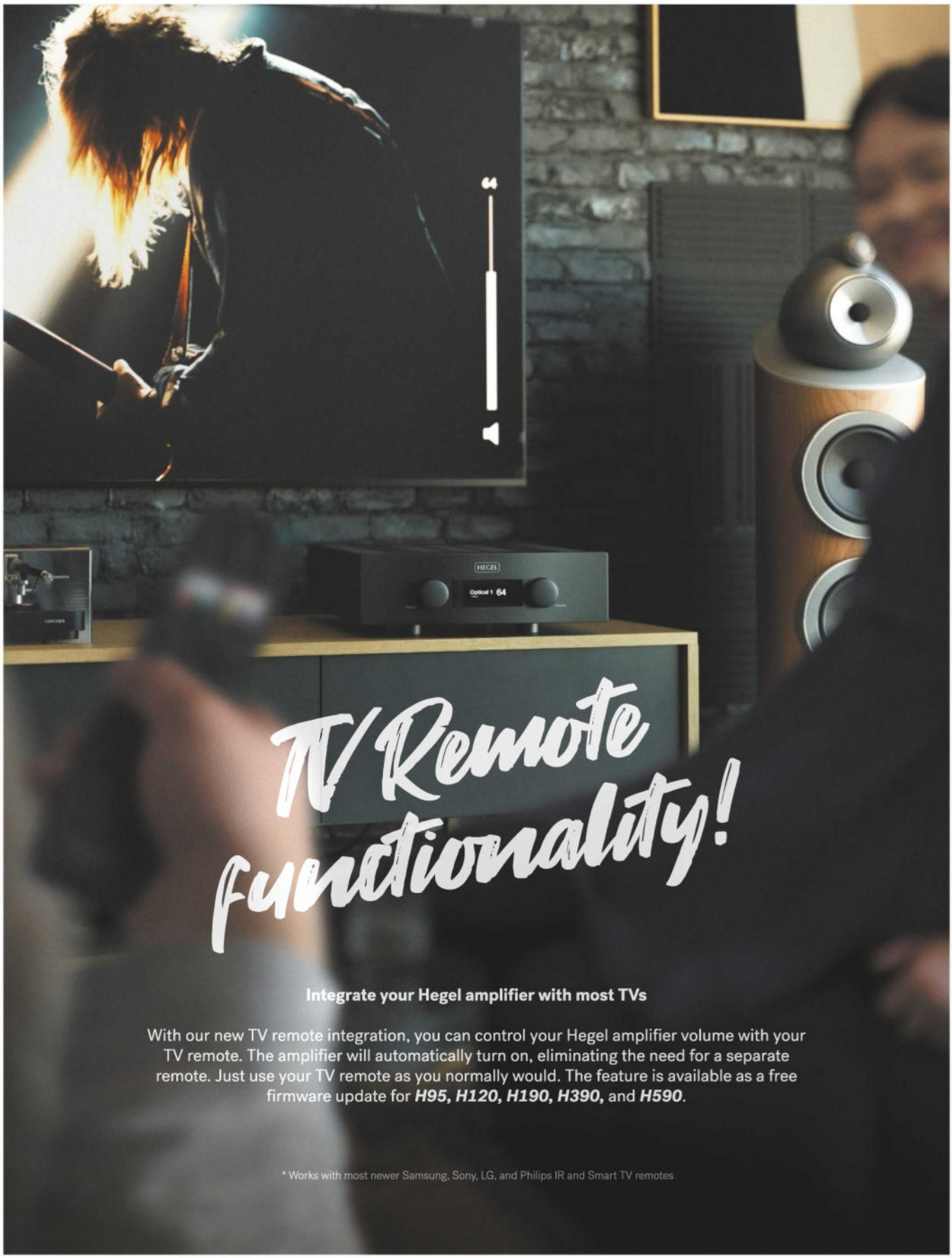

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RIGHT: Crafted in celebration of Audio-Technica's Diamond anniversary, the AT-ART20 blends MC sound quality with MM tracking prowess, see p66

RIGHT: From The Netherlands' PrimaLuna comes this all-tube MM/MC phono preamp – its glowing performance lights up p52...

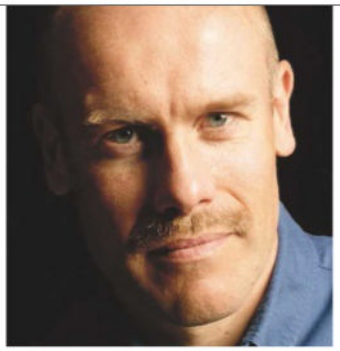
MUSIC: Released in 1984, Echo & The Bunnymen's *Ocean Rain* is our Vinyl Icon (p82), while Steve Sutherland lifts the lid on the Small Faces' eponymous second album, re-available on 180g vinyl (p80)

RIGHT: *HFN* is the UK's representative of EISA's Hi-Fi Expert Group. Editor Paul Miller took over as EISA's President in June 2016 and was re-elected in 2021

'ECREE', if I may borrow from the late, great Carl Sagan, is a standard demanding that 'Extraordinary claims require extraordinary evidence'. And that's just what we have gracing our front cover this month – not the Halcro Eclipse amplifier itself, which clearly exists, but the claims made by its antipodean engineers for such vanishingly low levels of distortion that it leaves its 'typical best competitors' trailing in the numbers game.

Similar claims were made for the original incarnation of the Halcro power amp over 20 years ago [*HFN* Apr '02 and 'From The Vault', Dec '22] but no-one at the time quite validated these figures and neither, to the best of my knowledge, has anyone since.

Halcro offers a mind-boggling specification for its Eclipse amplifier on its website – THD below 0.00002%/1kHz, for example – but there are no graphs or other supporting data. Neither was any forthcoming when I requested its reference traces prior to our in-depth review. Fortunately, test and measurement challenges are our bread and butter at *Hi-Fi News*, but I'll not spoil the outcome before you've turned to p40 and explored our independent review for yourselves.



I'm not giving anything away by saying the Eclipse achieves a remarkable set of figures in the lab, but I'm also confident that vanishingly low distortion *per se* does not explain the amplifier's equally memorable *sound*. After all, other components in our hi-fi systems, not least the loudspeakers or an MM/MC pick-up, will introduce ~10,000x higher levels of harmonics into our listening experience.

> "'Extraordinary claims require extraordinary evidence", even in hi-fi'

In practice, Halcro's microscopic levels of distortion, its vacuum-esque levels of noise, the massive damping factor, *etc*, are all indicative of a novel circuit design that sounds different because it *is* different. It is 'tweaking' areas of performance that do not currently fall within the embrace of our measurements. So we have work to do...

PAUL MILLER GROUP EDITOR

HI-FI NEWS' EXPERT LINE UP: THE FINEST MINDS IN AUDIO JOURNALISM BRING THEIR EXPERIENCE TO BEAR ON ALL AREAS OF HI-FI & MUSIC

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worked on *Melody Maker* and then edited *NME* from 1992-2000, the Britpop years. Steve brings a unique slant to our Vinyl Release pages

Hello, Hyphn

MONITOR AUDIO ANNOUNCES PREMIUM FLOORSTANDER WITH 'M-ARRAY'

The 'Concept 50' loudspeaker revealed in prototype form by Monitor Audio at the 2022 Munich High End Show has entered production. Now named Hyphn in honour of its unusual design, the floorstander launches with a price tag of £70,000 and features cabinets formed by separate 'pillars' linked by a central cluster of mid/treble drivers.

Offered in a choice of Pure Satin White, Matte Black and Matte Heritage Green 'luxury finishes', the Hyphn's pillars house opposing pairs of 200mm RDT III bass drivers, firing inwards in a force-cancelling configuration. Meanwhile, the speaker's front-facing 'M-Array' positions six 50mm RDT III midrange drivers around a bespoke implementation of MA's third-generation Micro Pleated Diaphragm (MPD) HF transducer, previously debuted on its Platinum Series 3G models. The Hyphn's three-way (350Hz, 3.7kHz) crossover is built onto individual PCBs with 'isolation feet'.

For the down-ported, bass-reflex cabinets, with a claimed 18Hz/–6dB extension, Monitor Audio has used thermoformed, milled mineral/acrylic stone combined with a die-cast alloy for the M-Array housing. Internal 'strengthening ribs' brace the cabinet walls which are 12mm thick, increasing to 24mm around the bass drivers. The speakers, which are built entirely in-house at the company's UK facility, weigh 107kg each (including plinths) and stand 1.39m tall.

Monitor Audio Ltd, Essex, 01268 740580; www.monitoraudio.com

Server split in two

AURENDER DEBUTS DUAL-CHASSIS NS30A

Joining the W20SE [*HFN* Mar '23] at the top of Aurender's 'digital output series' of music servers/streamers is the new NS30A, a twin-box design priced £25,000. Supplied as standard with an 8TB SSD (plus 480GB SSD cache), and with an expansion slot for more memory, its dual-chassis design places power, storage and control circuitry (plus 8.8in colour display) in a separate enclosure from the 'audio box'. The latter features USB (384kHz/DSD512) and S/PDIF (192kHz) boards, and electrically isolated AES/EBU, BNC, coax, Toslink and USB-A outputs. Aurender's familiar Conductor app handles music management, streaming service integration, and control over the hardware's upsampling and Critical Listening Mode tools.

Aurender, Gyeonggi-do, South Korea, 01223 653199; www.aurender.com

HI-FI NEWS' NUGGETS

A FAMILY AFFAIR

The Goldy cartridge from VPI (named after CEO Mat Weisfeld's daughter) has entered production and will arrive in the UK soon via distributor Renaissance. Developed in the US in partnership with Audio-Technica, it adopts design and engineering principles from VPI's Shyla moving-coil sibling, and is voiced to have a 'similar sound signature'. Price is TBC. *www.vpiindustries.com*

CONNECT AND SERVE

Japan's Furutech brand has launched two range-topping XLR connectors, for use with interconnect cables up to 10mm in diameter. Both the CF-601M NCF (£128) and CF-602F NCF (£144) feature a proprietary Nano Crystal Formula 'ultimate damping' material in their multi-layered housings. Rhodium-plated, one-piece copper conductors and signal connectors are employed inside. The pricier '602F XLRs gain a chrome-plated inner housing and stainless steel release button. *www.furutech.com*

A-T's flagship MC

'UNIFIED' DIAMOND DESIGN FOR LE PICK-UP

Released to mark the company's 60th anniversary, and limited to a production run of 60 numbered units, Audio-Technica's AT-MC2022 moving-coil cartridge claims a unique element: a one-piece diamond cantilever and microlinear stylus said to 'eliminate' the distortion of a conventionally bonded design. Priced £8900, the pick-up leverages the magnetic circuit of the Japanese maker's AT-ART20 MC [p66], claiming a 0.55mV/5cm/sec output, and supports tracking forces between 1.6g-2.0g. Its curved, 'ion-plated' titanium/aluminium body features an elastomer base to reduce resonances, plus gold-plated terminal pins and threaded mounting holes. Audio-Technica presents its flagship cartridge in a laser-engraved, walnut case.

Audio-Technica Ltd, Tokyo, Japan, 0113 277 1441; www.audio-technica.com

Entry-level amp reborn

ALL-ANALOGUE INTEGRATED IS FINE-TUNED BY UK'S AVID HI-FI

AVID Hi-Fi has announced a new iteration of its Integra integrated amplifier. Priced £9300, it features a new slim remote with controls for volume/mute, and boasts performance-enhancing upgrades to its power supply and MM/MC phono stage.

Launched in 2019 as the company's entry-level integrated, the Integra utilises a 'huge' 750VA transformer to claim a 2x90W/8ohm output, while its full-size headphone connection is fed by a 10V-rated preamp specified to drive 20-600ohm loads. Connections are analogue all the way, with four line-level unbalanced RCA inputs joined by phono (with RCA load inputs – 500ohm plugs are provided), and a line-level out. Rear-panel DIP switches provide MM (48dB), MC Low (60dB) and MC High (70dB) gain options.

Aesthetics remain the same, the Integra's brushed aluminium front panel featuring an engraved logo, input, mono and mute selection, and Alps volume potentiometer. Finish options for the heavy gauge steel chassis are black or silver. **AVID Hi-Fi Ltd, Kimbolton, Cambs, 01480 869900; www.avidhifi.co.uk**

Mytek reads the Roon

VERSATILE NETWORK DAC AIMS TO SIMPLIFY STREAMING

A successor model to its Brooklyn Bridge DAC/streamer/preamp [*HFN* Dec '19], Mytek's Brooklyn Bridge II Roon Core – as the name suggests – strengthens the do-it-all ethos by integrating a Roon Core server. Shipping now in black or silver priced €3995 (64GB storage) or €4795 (4TB), the unit features a converter stage based around ESS's ES9028PRO DAC, supporting 384kHz/32-bit LPCM, DSD and MQA, and enabling end-user 'Harmonic Audio Tuning'. Wired/wireless digital inputs are joined by MM/MC phono and RCA line inputs, balanced/unbalanced analogue outs, and balanced/unbalanced headphone outs on a chassis fronted by a full-colour touchscreen. Mytek suggests combining it with its 2x300W Brooklyn AMP+ power amplifier. **Mytek Europe Sp.z.o.o, Warsaw, Poland, +48 22 869 29 06; https://mytek.audio**

Edwards Audio sees red

COMPACT AMPLIFIER DUO STYLED FOR VINYL PARTNERS

With colour options of black, white, red, blue, grey and green, Edwards Audio's IA1 and Apprentice IA integrated amplifiers are designed to match its turntable and phono stage hardware, and – at £430 and £370 respectively – are similarly affordable. Both utilise a compact 220mm-wide chassis with new illuminated front-panel logo, and marry 2x30W/8ohm Class AB amplification with MM phono, line-level (x2) and 3.5mm inputs, plus a 6.35mm headphone output. Upgrade options include an aptX HD Bluetooth card and preamp functionality. The difference between the two models? The IA1 ships with a remote control. **Edwards Audio, Wiltshire, 01344 844 204; www.talkelectronics.com**

HI-FI NEWS? JUST ASK...

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Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

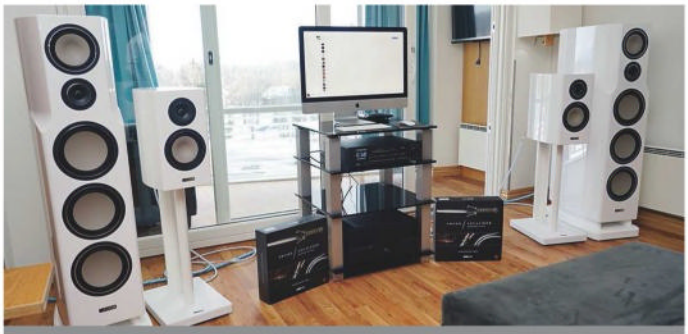
14-16 APR	Axpona 2023, Renaissance Schaumburg Hotel & Convention Center, Illinois, USA; *www.axpona.com*
18-21 MAY	High End, Munich, Germany; *www.highendsociety.de*
17-18 JUN	North West Audio Show, Cranage Hall (De Vere Cranage Estate), Cheshire; *http://audioshow.co.uk*
29-01 SEP/OCT	The UK Hi-Fi Show *Live*, Ascot Racecourse Grandstand, Ascot Berkshire SL5 7JX; *www.hifishowlive.com*
27-29 OCT	Audio Video Show Warsaw 2023, Radisson Blu/Sobieski Hotel, Warsaw, Poland; *www.audioshow.pl*

Oslo Hi-Fi Show 2023

Words: **Håvard Holmedal** Pictures: **Roy Ervin Solstad** & **Ljubiša Miodragović**

It was a new audio event for Norway as the Oslo Hi-Fi Show opened its doors between the 11th and 12th of March 2023 at the Asker Scandic Hotel, just 15 minutes by car or train from the Norwegian capital. The hotel offered plenty of space, rooms with surprisingly good acoustics, and areas where lectures and small concerts by well-known Norwegian artists could be enjoyed. The show's organisers are Norway's leading hi-fi magazine *Stereo+*, aided by two local distributors – Mala Audio and Stereofil – both of which run retail stores.

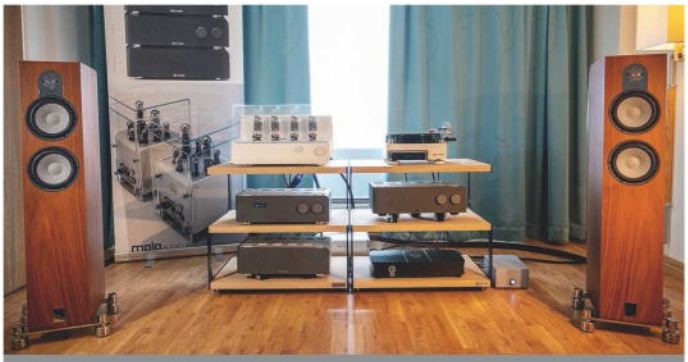
The show covered four floors with exhibitors in 48 different rooms and boasted its own record fair. The marketing was focused on visitors who had not attended similar exhibitions before, and the show saw a lot of young people in attendance.



German company Canton demonstrated both its Reference 2K floorstanding speaker and 9K standmount [*HFN* Aug '22] driven by Bryston's 14B^3 stereo power amp hooked up to a BR-20 network DAC/preamp [*HFN* Jul '21]. Cabling included Supra's Sword Excalibur [*HFN* Mar '23]. Canton will surely have gained new followers in Norway thanks to the speakers' deep bass, dynamic midrange and detailed treble. *www.canton.de*

High-end turntables are still highly sought after in Norway and there was no shortage of vinyl aficionados nodding their heads in approval to the vibrant sound of the Muse 1C from Italian firm Reed, equipped with the company's 3p arm and an Eminent EX MC cartridge from My Sonic Lab. *www.reed.lt*

The Westminster Lab Quest is a fully balanced dual-mono preamp, hand-soldered in Hong Kong. To the rear can be found two expansion slots, one to add a line input card, the other to take a phono input or digital card, said to be in the pipeline. The design is uncomplicated, but the sound was remarkably euphonic, fluid and musical. *www.westminsterlab.com*



Atop this Pylon Audio rack is the ARNE amp (left) from Engström [*HFN* Sep '22], which employs a push-pull pair of 300B power triodes per channel. Also in use were Engström's Monica preamp and M-Phono MM/MC phono stage. To the right of the ARNE is the TechDAS Airforce V turntable [see p29] while the loudspeakers are Marten's Parker Trio Diamond Editions. *www.engstromsound.com*

PS Audio's aspen FR30 loudspeaker [*HFN* Jun '22], with its four front-facing 200mm alloy-coned woofers, dominated one of the larger rooms at the event, filling the space with a sound that was beautifully detailed. Yet the company's smaller aspen FR20 [*HFN* Apr '23] was perhaps just as impressive, possessing much of the same treble and midrange goodness as the much larger FR30. The electronics used were from Aesthetix in the form of its Metis line stage and Atlas power amps. *www.psaudio.com*

It hasn't taken long for Perlisten Audio to capture the hearts of Norwegian audio enthusiasts and its flagship S7t floorstander [*HFN* Apr '22] with its mid/high DPC array showed why. Used with the company's D212s subwoofers they drove the room, being big on dynamics and grip. *www.perlistenaudio.com*

The Copland CTA407 was shown for the first time at the Oslo show. A development of the CTA405 amplifier, it's an integrated tube design said to deliver 50W per channel in Class A/AB mode and adapt automatically to any tube in the 6550/KT88/KT120/KT150 valve family thanks to its automatic bias adjustment. The precise volume control is motor driven. And the sound? Excellent! *www.copland.dk*

The styling of its components may divide opinion but there were only smiles on the faces of those in the room of Thöress, a company based in Aachen, Germany, that makes a range of speakers and valve amplifiers. Its EHT integrated (left) is a hybrid design that sees a single-ended triode gain stage driving a unity-gain single-ended MOSFET output. To the right is The Enhancer phono equaliser, which promises users the ability to select a wide range of legacy equalisation curves on the fly. Turntable was the Nottingham Analogue Interspace Jr while speakers were Horns FP12. *www.thoeress.com*

MONITOR AUDIO

Objects of Desire

"There is, I think we can all agree, a great deal of satisfaction to bederived from being in the presence of expertise".

Simon Lucas, on the Platinum 300 3G

Platinum Series 3G

Platinum Series 3G comprises four elegantly designed high-performance loudspeakers, that entwine acoustic innovation, attention to detail and precision engineering to deliver breathtakingly accurate sound that will delight for a lifetime.

Listen Again.

Explore more

Revival impressed with a simple, but well-composed set-up comprising a Gold Note integrated amp which in turn drove its two-way Atalante 3 (left) and larger three-way Atalante 5 standmounts, both designed in France. The former uses a 28mm tweeter and 18cm woofer while the latter sports the same tweeter with 75mm midrange and 30cm woofer. *www.revivalaudio.fr*

Naim was on hand with its range of New Classic components, released to celebrate the company's 50th anniversary. Racked from top to bottom were the NCS 222 preamp/streamer, NPX 300 power supply and NAP 250 power amp. Now in its sixth generation and delivering a claimed 100W/8ohm, the dual-mono NAP 250 uses the DR power supply tech found in Naim's Statement amp range and sees the company prove, as usual, that you don't need a hefty power amp to have fun in front of your system. *www.naimaudio.com*

Here's Bryston's BR-20 preamp (top) along with two of the company's meaty and muscular power amps in the form of the 14B^3 (left) – said to be good for 600W/8ohm – and 28B^3, which delivers a claimed 1kW/8ohm. These powered Canton Reference 1K speakers for a potent and dynamic sound that could also be heard in surrounding rooms! *www.bryston.com*

Leif and his brother Jørgen Olofsson of Swedish speaker maker Marten brought along the majestic-looking Coltrane Memento 2 Statement Edition floorstander. Each enclosure stands 182cm tall, weighs a whopping 210kg, and houses drivers that utilise both diamond and ceramic domes. Set up in the show's largest room, they simply sparkled on the end of pre/power amplification courtesy of Constellation Audio. *www.marten.se*

PERLISTEN
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noun · (A person joining the PERLISTEN community by sharing a perceptual listening moment)

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"...undoubtedly a technically clever loudspeaker, but engineered for one simple goal – making great-sounding music..."
S7t, Hi Fi News, April 2022

"Like its S7t sibling, it excels when it comes to mid and high details, resolving the most subtle of musical moments and nailing the feel and tone of instruments...It all sounded wonderfully three-dimensional."
S4b, Hi Fi News, June 2022

"For those who like to close their eyes during listening, the R7ts are heaven sent. Put another way: as Knopfler's Schecter Strat gave way to the piano toward the track's end, I started to well up. It really was that good."
R7t, Hi Fi News August 2022

"Perlisten brings exceptional levels of detail and nuance to movies and music, underpinned by rock-solid lows. Lush looks and outstanding build quality make this series even more of a winner."
Combined Award EISA LOUDSPEAKER SERIES 2022-2023, Perlisten S Series

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EISA AWARD 40 ANNIVERSARY Best Product 2022-2023
LOUDSPEAKER SERIES
Perlisten S Series

karma
audio-visual

01423 358846 karma-av.co.uk

Hamrammr is an old Norse name for a shape-shifter, and the new Norwegian speaker manufacturer that goes under this moniker can claim the crown for the most remarkable bass reproduction at the show. The sound was served up by the company's Immersive 12 standmounts, each boasting a 12in coaxial driver and a claimed sensitivity of 98dB/1m. As for the low-end, this came from no fewer than ten subwoofers, each with a 1kW amplifier inside and arranged in two stacks of five. According to Hamrammr, the multiple bass drivers act in unison to achieve low distortion and greater dynamic headroom. *www.hamrammr.com*

The most affordable turntable in the TechDAS range, the air-bearing, vacuum hold-down Air Force V [*HFN* Jan '19] could be heard with a Reed 1H tonearm and Hana Umami Red cartridge [*HFN* Dec '20]. We already knew this MC pick-up to be excellent, but on the Air Force V the sound was truly top-notch, the soundstage being airy, spacious and incredibly quiet. Indeed, it surpassed that of many a digital set-up at the event. *www.techdas.jp*

Another Norwegian brand, Electrocompaniet had its new AW800M mono power amp on active display hooked up to a pair of gorgeous-looking Sonus faber Olympica Nova V loudspeakers [*HFN* Mar '20]. The AW800M will replace the legendary AW600 NEMO, which is now more than 20 years old. The new bridged monoblock is rated at 800W/8ohm but can also be run in stereo or bi-amp modes via a flick of a switch on the rear. *www.electrocompaniet.com*

Graham Audio showed off its revival of the LS5/1 loudspeaker, used at the BBC until the early '70s. Measuring 103x43x48cm (hwd), the floorstander has two tweeters in front and a 15in mid/bass tucked just inside. Its beautiful British-built cabinet is made from damped MDF and finished in a real-wood veneer. *www.grahamaudio.co.uk*

Next month

HFN reports from AXPONA (Audio Expo N. America) 2023

Guildford Audio

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audio research
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MAGICO

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EAT
European Audio Team

Reed
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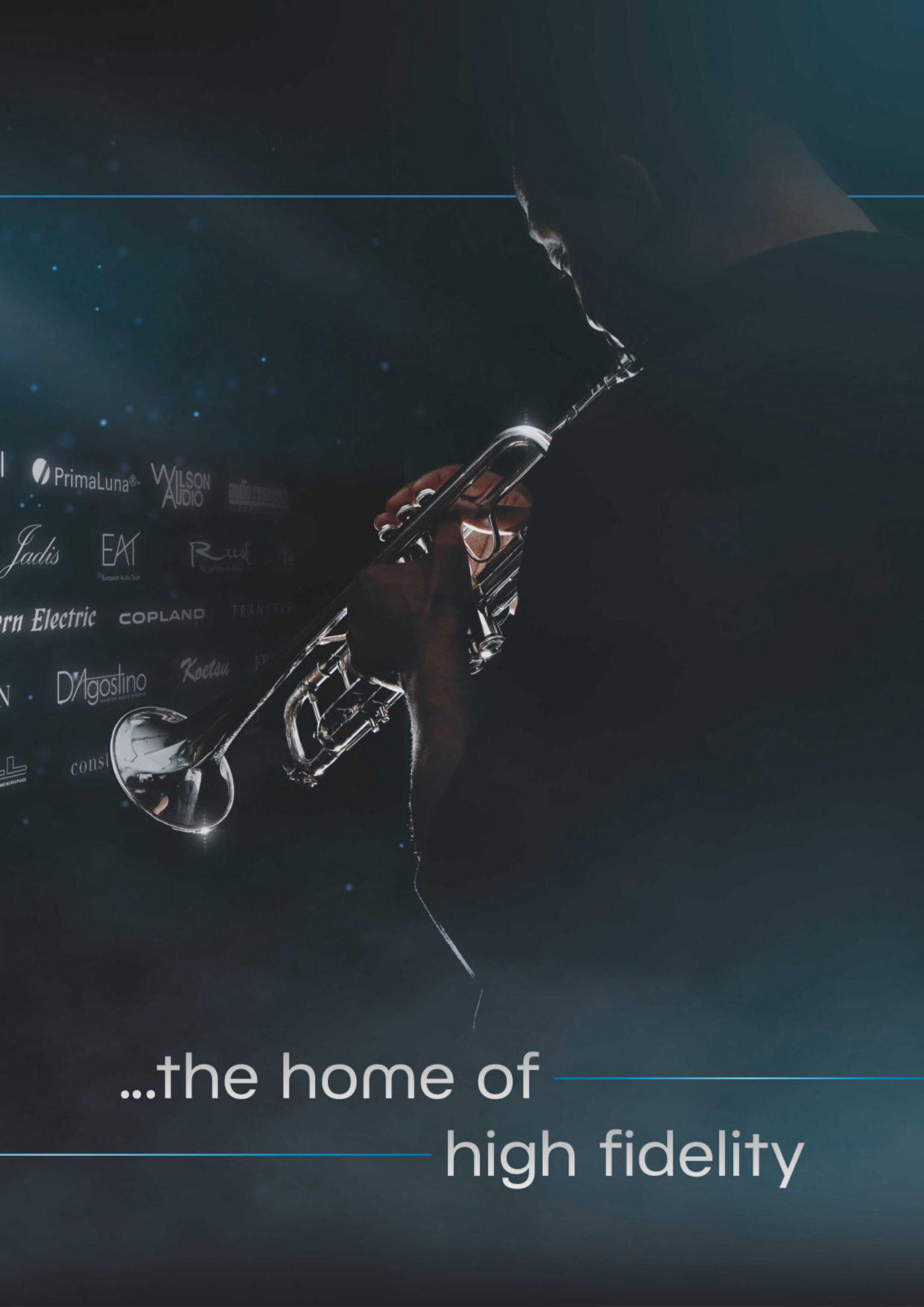


...the home of high fidelity

Upper cuts

Bonus material, multiple formats, plush packaging... **Ken Kessler** sorts through the latest archival releases to bring you the best deluxe reissues from music's most famous names

As with recollections, 'definitions may vary' when it comes to the meaning of 'deluxe' as applied to albums. As this round-up shows, all genres and formats are fair game, and diversity rules, from jazz to 'British Invasion' rock to psychedelia to progressive to surf – there's something for everyone. The elevated status of a deluxe edition may mean extra material, multiple formats in the same box, lavish packaging, or that priority for audiophiles: remastering or remixing for better sound.

This gathering includes LPs pressed with One-Step or UHQR techniques, their value obviously resting with sound quality. They include no extra material, but do feature superior packaging commensurate with sonic gains and higher price tags.

EXTRA TIME

Alas, better sound isn't always the case when it comes to some deluxe releases, *eg*, The Beatles box sets proved controversial. But Impex, Analogue Productions and Mobile Fidelity certainly get it right.

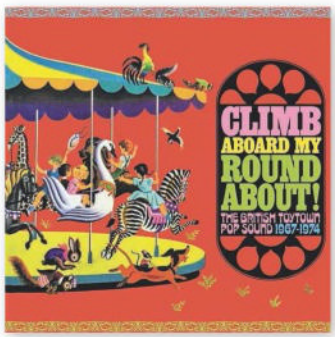
Ah, prices. While many deluxe albums – often marking anniversaries – are only offered in one format, or both CD and LP, some appear in a number of configurations to suit all budgets, especially from artists with large audiences (*eg*, Bob Dylan's set), the dearest ones containing even more bonus material. (I have only discussed sets which I have physically handled, but have cited alternatives.) This raises a question: how much do extras matter? It's a lesson Yoko Ono should learn before we suffer another bloated John Lennon package.

VARIOUS ARTISTS

Climb Aboard My Roundabout!

Grapefruit CRSEGBOX119 3CDs

Grapefruit now owns the obscure compilation genre, cannily including enough true rarities to enhance the appeal for seasoned collectors. Subtitled 'The British Toytown Pop Sound 1967-1974', its 87 tracks – annotated in a 48-page booklet – range from known examples of the genre, *eg*, David Bowie's 'Uncle Arthur' and songs by The Kinks, The Herd, Keith West and others, to dozens from acts which have slipped through the cracks



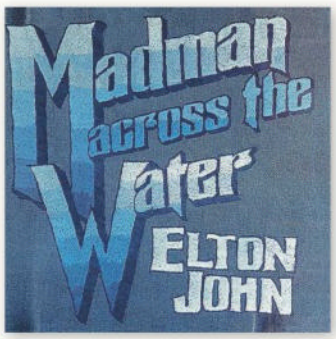
of time: Timon, Scrugg and more. This is an education in psychedelia and British whimsy. Still mystified? Two entries say it all: The Bonzo Dog Doo-Dah Band. And Kenny Everett.

ELTON JOHN

Madman Across The Water 50th Anniversary Edition

Rocket EMI 02435 83624 2CDs

As I own the best version of this – the open-reel tape – and I'm a pensioner, I settled for the 2CD set. CD1 holds the 2016 Bob Ludwig-remastered album with five bonus tracks while CD2 gives us a dozen piano demos. It's a reminder of how great were Elton's 1970s releases, 'Tiny Dancer' and 'Levon' enough to make the point. Spending more for the 3CD/1xBlu-ray or 4LP boxes gets the above plus

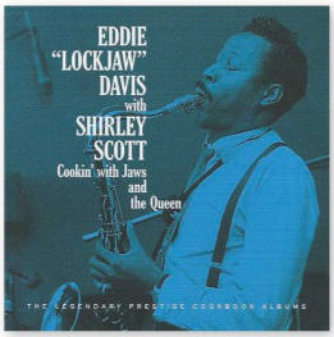


the *BBC Sounds For Saturday* performance. The Blu-ray adds two 5.1 mixes of the title track and the videos of the BBC session and a 1971 *Old Grey Whistle Test* appearance.

PATRICIA BARBER
Nightclub

Impex IMP6037-1 1Step 2x45rpm 180g LPs

Or why we love audiophile labels: here we have a no-constraints, 'kid glove' treatment of an LP released in 2000 which already sounded sensational, Impex calling the tech '1Step', pressing the two 45rpm LPs on VR-900 Supreme vinyl, and slipping them into a swanky case. Mastered by the brilliant Bernie Grundman from the original analogue tapes, it has all the intimacy the title begs, being as fine a recreation of a jazz club in your listening room as you're likely to hear. Meanwhile, the music is straight from the Great American Songbook. One spin of 'You Don't Know Me' and you'll find yourself wishing it was 1957.



EDDIE 'LOCKJAW' DAVIS WITH SHIRLEY SCOTT
Cookin' With Jaws And The Queen

Craft Recordings CR00541 4CDs

Jazz collections suffer high prices due to lower sales than, say, an Eagles box, but this set sells for just £35. Subtitled 'The Legendary Prestige Cookbook Albums', the release also marks saxophonist Davis' centennial. All four of these glorious soul-jazz albums with organist Scott – *Cookbooks Vols 1-3* and *Smokin'* – were recorded in 1958 and the early stereo spread is astonishing. Also available as a 4LP set.

RINGO STARR AND HIS ALL-STARR BAND
Live At The Greek Theater 2019

BFD BFD418CB 2CDs/1xBlu-ray

I've stopped counting the lineups of Ringo's All-Starr Bands, but the joy they bring is backing the ex-Beatle with A-list guests with their own spots in the set. This time they include Gregg Rolie, Steve Lukather, and Colin Hay, the gig filling two CDs. Live albums often include a bonus DVD of the video of the concert, but this time it's a superb Blu-ray; the double LP is *sans* video. Beatles classics plus 'Rosanna', 'Evil Ways', 'Cut The Cake'? A feast.

STEELY DAN
Can't Buy A Thrill

Analogue Productions UHQR 0009-45 UHQR 2x45rpm LPs

We review Geffen's reissue, which costs around £25, in our Music Reviews pages [see p92], but this edition of Steely Dan's debut delivers incomparably superior sound and pressings so perfect you'd wish all LPs were stamped on Clarity V2 vinyl. Side-by-side, you hear instantly why UHQR is something to which to aspire – the sax break in 'Dirty Work' left me speechless. And Analogue Productions' slipcase? The acme of LP sleeves.

MARIANNE FAITHFULL
Songs Of Innocence And Experience 1965-1995

UMC UMCV0729206 2CD

Although myriad Faithfull compilations exist – and this lacks the original version of 'As Tears Go By', arguably her greatest hit – this superb collection covers both her Decca and Island catalogues. It's a gorgeous package with superior liner notes and images, while the remastered 44 tracks include live material, singles tracks and five previously unissued recordings. The 2LP alternative, by the way, provides only 28 tracks.

MADNESS
The Liberty Of Norton Folgate

BMG SALVLP15 2x180g vinyl LPs

Having revamped their back catalogue, Madness have treated their ninth studio album from 2009 with a gorgeous gatefold sleeve and 180g vinyl. It's been reissued a couple of times, some of the earlier packages coming with different bonus material, but here you get seven extra cuts from the sessions not previously available on vinyl and related singles. Fans will relish, too, the extensive liner notes here, which contain new interviews with Suggs and Co.

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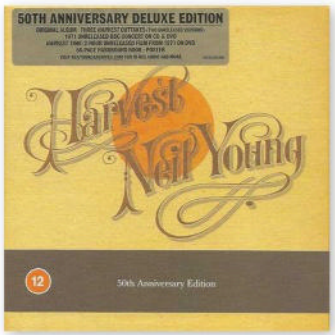
GILBERT O'SULLIVAN
The Best Of

BMG BMGCAT781TCD 3CD

Coinciding with the release of *Driven*, his first album since 2018, this 67-track, 3CD set was 'curated by GOS' so it's his own choices and it's a blast. I always found his output pleasurable if innocuous, but damn, talk about irresistible ear-worms! The genre of British folk/roots rock (think McGuinness Flint or Gallagher & Lyle) is easy-on-the-ears so here's a feast of superb-sounding versions of 'Get Down', 'Alone Again (Naturally)' and other guilty pleasures.



NEIL YOUNG
Harvest 50th Anniversary Edition

Reprise 093624881698 3xCD/2xDVD

Vying with *After The Goldrush* as Young's 'Most Beloved Album', *Harvest* remains his best-selling. Expanded with the original album remastered (alas no Blu-ray nor SACD high-res version), a CD of three outtakes and one of 1971's *BBC In Concert*, its DVDs provide an unreleased two-hour documentary, *Harvest Time*, for devotees and the 1971 BBC video, though the latter sounds dire. Packaged with a book and poster, it's a lavish set also on vinyl, and with video DVDs.

ABBA
CD Album Box Set

Polar 02445 14952 10CDs

Unless they reunite once more, this should be the final word on ABBA's studio output: all nine albums and the 2021 reunion release, *Voyage*. Also in the box is a bonus CD of non-album tracks, but I recall that the circa-2000 reissues had many different extras. No matter, as this is all you need aside from the group's live albums, and it's both bargain-priced and nicely packaged, with handsome miniature card sleeves and a decent booklet. The box is also offered as a 10LP set.

TOM PETTY & THE HEARTBREAKERS
Live At The Fillmore

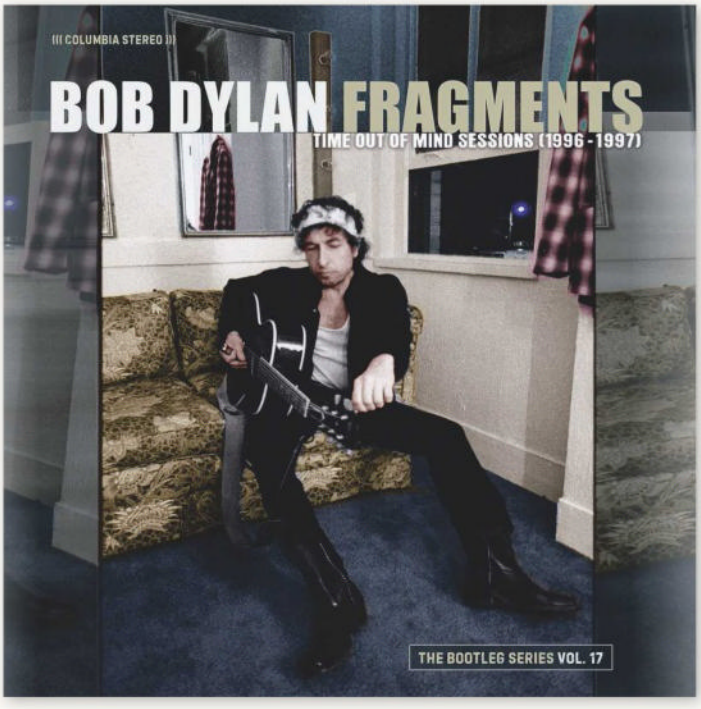
Warner 093624879633 4CDs

Petty felt this period was the band's peak, and as live albums go, it's magnificent. They played 20 nights at the Fillmore West in 1997, of which six were professionally recorded. This contains the cream of the gigs over 58 tracks, a blissful mix of the band's material and 35 sublime cover versions, running to four hours. The handsome box also contains a 32-page booklet and memorabilia. The 3LP set, meanwhile, offers but 33 tracks and no bits 'n' pieces.

BOB DYLAN
Fragments: Time Out Of Mind Sessions (1996-1997)

Columbia 19439981992SC1 2CDs

Collecting Dylan is a costly pursuit: this is Volume 17 (yes, *seventeen*) in 'The Bootleg Series', so I'm down to the 2CD version, but it's a winner even in compact form. The set marks the 25th anniversary of *Time Out Of Mind* with 23 tracks comprising the newly remixed album on CD1, and a dozen outtakes and alternates on CD2, plus a suitably detailed booklet covering every track. The 4LP box corresponds to the 2CD set. Hard-core Dylanologists, however, will need to investigate the 5CD set with 60 tracks. Not enough? Go to Dylan's online store and you'll discover a 10LP edition of the 5CD package.



CROSBY, STILLS & NASH
Crosby, Stills & Nash

MoFi UD-1S 2-021 2x45rpm UltraDisc One-Step LPs

As the sticker says, this – the finest Anglo-American album ever to emerge from California – comes from DSD256 files off the 15ips analogue master, addressing the sources used. I have seven LP and CD versions of it and I'm convinced the One-Step is the most vibrant. Yes, my US first-pressing has ineffable warmth, and the 2006 CD impresses, but this fills the room with the best three-part harmonies in rock history. In a word: wow!

inakustik

PHYSICS NOT VOODOO

hi-finews EDITOR'S CHOICE

"...if you're thinking of blowing the cobwebs from your set-up, In-akustik has the air!"

NF-204 Micro Air, Editor's Choice, Hi Fi News, April 2022

"There's a lot of hand-made cable here for the money, making it a reliable bet for that first 'big upgrade'."

LS-204 XL Micro Air, Editor's Choice, Hi Fi News, February 2021

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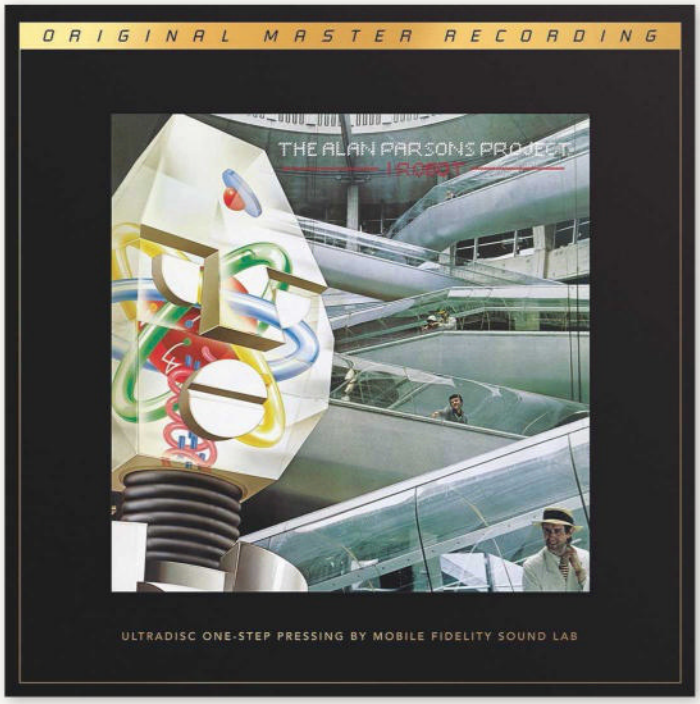
THE ALAN PARSONS PROJECT

I Robot

Mobile Fidelity UD-1S 1-041 One-Step Ultradisc 1LP/33.3rpm

This much-loved audiophile demo fave always sounds terrific regardless of format because Parsons is a sound quality fetishist like the rest of us. As a One-Step, the results are even more majestic, sweeping sounds, but what's intriguing is that this comes in the same 33.3rpm single-LP form as Michael Jackson's *Thriller* One-Step, released in January 2023. I call it 'One-Step Lite', and it saves on the price versus a 2LP set, with possibly minimal sonic loss, as we shall see (or hear) since this is also out as a regular MoFi release. Meanwhile a 2LP/45rpm One-Step version is said to be pending – a chance for fans of Parsons to do A-B-C comparisons?

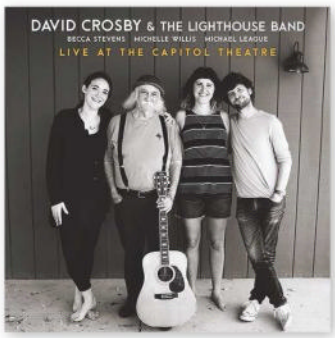


FRANK ZAPPA & THE MOTHERS

Rainbow Theatre London England

Zappa Records ZR20038-R 3x180g vinyl LPs

What this staggering triple LP comprises is the final concert – 10th December 1971 – with the remarkable (and hilarious) ex-Turtles Flo & Eddie as part of the entourage. The gig is classic Zappa of the era, but the sound is on another level, thanks to Eddie Kramer's mix, known for working with Hendrix, and Bernie Grundman's mastering. As this was part of *The Mothers 1971* CD-only box (Sept 2022), comparisons beg to be made.



DAVID CROSBY & THE LIGHTHOUSE BAND

Live At The Capitol Theatre

BMG 4050538640298 CD+DVD

When I bought this, I didn't expect it to be the last release during Crosby's lifetime. A companion to his well-received *Lighthouse* (2016) with the same personnel, it's a warm cross-generational affair with Crosby backed by musicians who weren't even alive when he was a Byrd. They performed later songs and a smattering of Crosby classics, the DVD giving us the entire 2018 performance with visuals, corresponding to the CD.

VARIOUS ARTISTS

Heroes And Villains

Grapefruit CRSEGBOX109 3CDs

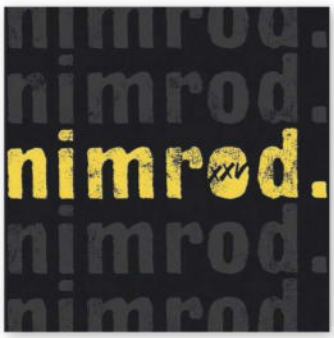
Correct me if there's another set like this as I'm dazzled: the subtitle 'The Sound Of Los Angeles 1965-68' says it all, as I rate that period and region as highly as Liverpool 1962-65. No fewer than 88 tracks from the famous to the unknown, described in an 80-page booklet: The Monkees in a box with Captain Beefheart? The Byrds and The Rogues? Roughly half will be unknown to many listeners, while some star acts are represented by non-hits, so it's rife with rarities. Genius!

THE BEACH BOYS

Sail On Sailor 1972

Brother/Capitol 00602445859269 2CDs

More reassessing of The Beach Boys' down period, after the hit years but before the *Pet Sounds*-driven renaissance, when they produced wonderful if neglected albums including the two here: *Holland* and *Carl And The Passions – 'So Tough'*. A sequel to the equally-extended *Feel Flows*, I opted for this 2CD set with both remastered albums and 28 bonus tracks. For vinyl, there's a 2LP+7in single package but the well-heeled devotee might consider the 5LP or 6CD editions.



GREEN DAY

Nimrod (25th Anniversary Edition)

Reprise 093624873006 5LPs

To mark 25 years since the power rock trio released *Nimrod*, the 2LP original is joined by a third LP of demos, with the fourth and fifth containing a concert at The Electric Factory, Philadelphia, in 1997. This isn't Green Day's first audiophile-grade release, proving a genre not thought of as bothered with sound quality merits the treatment: it's a knock-out. The box also holds a book and other souvenirs, while the 3CD alternative has all the music but fewer goodies.

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Andrew Everard / Paul Miller | **HiFi News**

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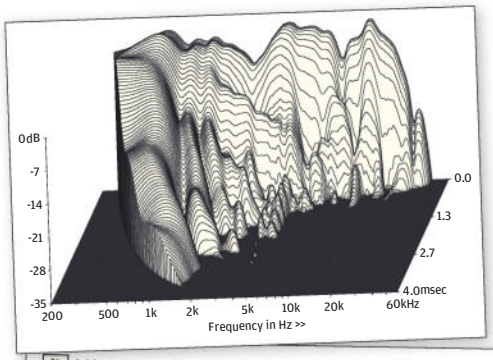
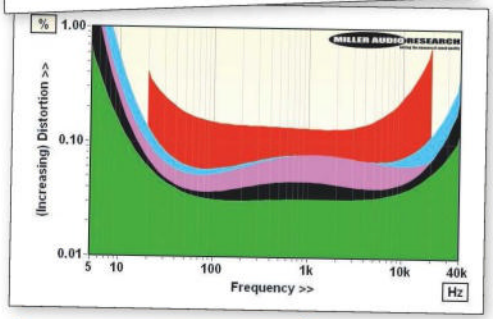
You hold in your hands the world's oldest and most respected hi-fi magazine – *Hi-Fi News* – where heavyweight audio engineering is our stock in trade. All our review products are typically subject to a one-month test process from shipping, unpacking, installation, photography, lab work, extended listening, disassembly/packing and collection. This practice was maintained right through the pandemic period, with full Covid biosecurity adding to the logistical complexity of our four-week issue schedule. But we did it... never missing one issue of the magazine or compromising the '*Hi-Fi News* Pledge':





1. Our hardware reviews are never brief 'hands on' experiences of a product from a press conference, brand-led demo or distributor's back room spun up into a four or five page article.

2. Products reviewed in *Hi-Fi News* already have secure distribution and retail channels in the UK. So readers *should* be able to arrange their own auditions if suitably inspired!

3. All review samples are shipped to and installed at our main facility. They are photographed by us (unless stock shots conform precisely to our template) and lab tested to a uniquely world-class standard before listening begins...

4. We believe in high quality investigative journalism by experienced writers and editors – we ask questions, we do our research and we make truly independent evaluations. We do not release reviews to brands for 'fact checking' or other modification prior to publication. They read it when you read it.

LEFT: Innovative, research-based test & measurement – with exclusive colour 'data visualisation' – underpins every review in *Hi-Fi News*. In each issue you will discover performance-determining facts that are unique to our reporting

ABOVE: Its final destination after a long-haul flight from Australia, the Halcro Eclipse Stereo is rolled up the drive into *Hi-Fi News* by Andy Baker of Sound Design Distribution [see p40]

5. Above all we respect our readers. You demand the best reviews informed by decades of experience, product knowledge and technical expertise. We endeavour to live up to that expectation.

IN THIS ISSUE...

LEFT: Here's Martin Morecroft of Redline, personally reinvigorating Totem's presence in the UK by delivering the new Bison Monitor standmount speakers for their exclusive review in *Hi-Fi News* [p62]

RIGHT: Even tucked into the corners of our listening room, the classic Klipsch Klipschorns [p48] are no bashful wall flowers. The huge Constellation Centaur II Stereo power amp [*HFN* Feb '23] provides a sense of scale...

Stereo power amplifier. Rated at 180W/8ohm
Made by: Halcro (Longwood Audio), Adelaide, Australia
Supplied by: Sound Design Distribution Ltd, Cardiff
Telephone: 0800 0096213
Web: https://halcro.com; www.sounddesigndistribution.co.uk
Price: £40,000 (£46,000 Premium finish)

Halcro Eclipse Stereo

The original Halcro amp starred in a recent *HFN* Vault feature but, some 20 years on, the marque is back in the same iconic shape and with the same high tech claims...
Review: **Andrew Everard** & **Paul Miller** Lab: **Paul Miller**

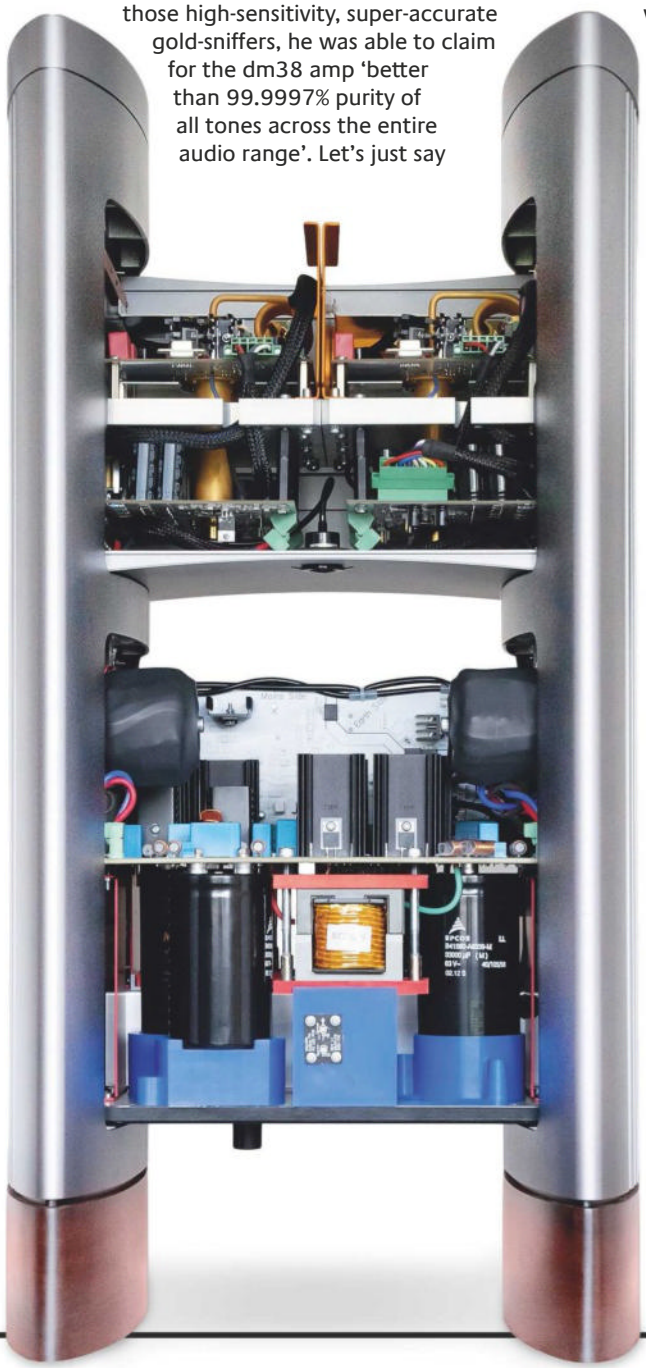
Working out the brand behind the Eclipse Stereo power amplifier isn't hard: not only is the design a modern take on the iconic Australian Halcro amps of the past [see 'From the Vault', *HFN* Dec '22], but the product itself, with the power supply and amplifier suspended between two solid uprights, forms the letter 'H' – not a trick we've seen other manufacturers attempting!

Selling for £46,000 in the Premium finish of the review unit, or £6000 less for the only slightly plainer Standard version, this latest iteration of a design that started with the original Halcro dm series around the turn of the millennium [*HFN* Apr '02] is part of a range including the Eclipse monoblocks. They are said by the manufacturer to be 'the new reference in amplification'. Quite a claim [see PM's Welcome, p21].

ORIGIN STORY

I say 'its manufacturer' as a lot has happened between those original dm models and the latest Eclipse line. Originally designed by South African-born, Cambridge-educated, adopted Australian Dr Bruce Candy – middle name Halcro – the amps were inspired by his development of metal-detection devices for the gold extraction industry, this microwave and ultrasonic technology forming part of his Minelab Electronics brand.

Halcro was born as a subsidiary of Minelab and was the result of Candy's loathing of any kind of distortion in amplifiers, and his belief that such distortions created 'ghost tones' which, while unheard as sound, could be detected by the human ear. Translating some of the thinking used in those high-sensitivity, super-accurate gold-sniffers, he was able to claim for the dm38 amp 'better than 99.9997% purity of all tones across the entire audio range'. Let's just say Dr Candy was never less than assertive in his claims, but the design went on to be developed further, and by the time of Halcro's last flagship model, the dm88, was definitely one of those 'spoken of in hushed tones' products.



RIGHT: Inside, seen from the front, showing the dual switchmode PSU [lower enclosure] and modular, dual mono FET power amplifier [top enclosure]. The tall alloy limbs also form part of the efficient heatsinking

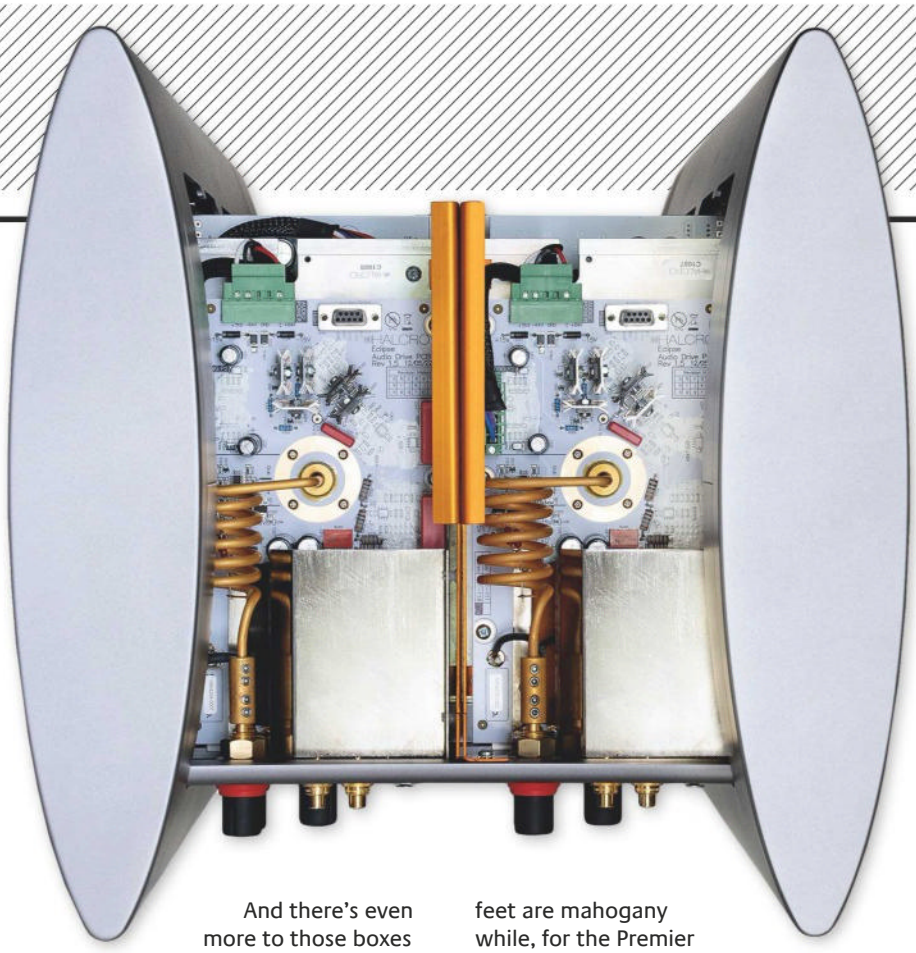
However, that was then, and this is now... After Minelab was swallowed up by military comms company Codan in 2008, mainly for the potential of its detection technology in clearing mines – of the lethal rather than profitable kind – Halcro, a distraction from the operation's main business, was shelved. And on the shelf it stayed, save for a brief licensing project with Vivid Audio, smartly seen off by the (last) Global Financial Crisis, until it was revived by Magenta Audio, an Australian-based hi-fi importer and distributor.

A new company, Longwood Audio, was founded with a team including Magenta's Dr Peter Foster and former Halcro lead engineer Lance Hewitt, and the Halcro brand, patent portfolio, stock and tooling – which had been sitting in an Adelaide warehouse whose lease was set to expire – were acquired.

A TOTAL ECLIPSE

And that brings us up to date with the Eclipse series, the result of considerable re-engineering, not to mention re-tooling and redesigning that iconic shape, which is now just a little softer and more curvaceous, finished to an even higher standard. The silver anodised casework of the old design, described by one reviewer as tending to 'ring like an old Adelaide church bell', is replaced by much heavier machined-from-solid aluminium, with the two enclosures forming the crossbars between the uprights made from aluminium sheet up to 1cm thick.

hi-finews
OUTSTANDING
PRODUCT
HALCRO
Eclipse
stereo



LEFT: Inside the top of the amplifier showing differential voltage-to-current converter input stages in screened boxes [bottom]. Note how the thick copper speaker output connections also double-up as LR filter networks

And there's even more to those boxes than meets the eye. The lower, larger housing contains the power supply, compete with IEC mains input and master power switch, while the upper section [pic, above] houses the input and output amplifier stages, each shielded from the others in more aluminium and copper. Every part of the amplifier's structure is hand-sprayed with multiple layers of aerospace-grade paint, and the whole enterprise sits on feet hand-carved from wood by a local luthier – or guitar-maker to you and me. In the standard version the feet are mahogany while, for the Premier version, they're aged Australian Redgum, apparently recycled from century-old fenceposts…

Meanwhile, many circuits have been re-laid and their components upgraded, the new Halcro maintaining the old Halcro's levels of stealth and mystery by painting over parts and enclosing vital sections in epoxy to keep their secrets (or damp them, depending on how you look at it). And with invisible fixings further serving to make the whole thing tricky to take apart – this being an amplifier to play, not to play with – all the owner really need know is where to find the pneumatic switch under the amplifier housing. With a slight hiss, from the switch, the amp moves out of standby (red light) to operational (blue light).

Cabling between the two housings is hidden in the uprights, which also disperse heat from the relatively cool-running FET power amplifier. Connections on the rear of the top (amplifier) case [see p47] accept unbalanced RCA or balanced XLR inputs, plus extra RCAs offering a half-gain mode with a very low 660ohm input impedance. The speaker cable terminals are chunky combination spade/banana types. Power output is given as 180W/8ohm, and 350W a side into 4ohm [see PM's Lab Report, p47], with extensive protection built-in against accidental short-circuit, over-current, DC offset, mains transients and quite possibly possum attack – Halcro has always been big on protecting its amps from users. Finally, the whole thing weighs a substantial 62kg, so is a two-man lift as you shuffle it into position.

H IS FOR HEROIC

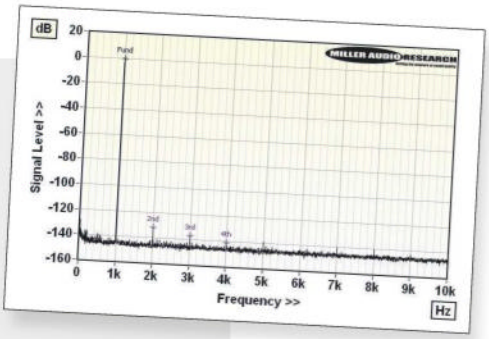
For all its claims, the Eclipse Stereo genuinely delivers on its promises – so much so that a note of caution is in order. Most amplifiers produce a little (white) noise, which can be heard with an ear close to a tweeter with no music playing, but with this one there really is nothing, just silence. As a result, some care is required with the volume control on first acquaintance – full-force music just appears from nowhere when it starts playing, so it really could take you, and your speakers, by surprise.

Get the measure of how this happens, however, and the Eclipse Stereo is an absolute delight: used between the Aurender W20SE [*HFN* Mar '23], dCS Vivaldi

DESIGN NOTES

'We never release schematics', says CEO Peter Foster [see interview sidebar, p45], 'every circuit has the component designators engraved off and the boards are coated in an epoxy layer to further mask what's going on'. That's certainly true as we can see by the light-grey painted areas on Halcro's 'Audio Drive' PCB [above]. But here's what we do know about this very novel amplifier... The power supply, screened in its own independent enclosure, is a two-stage switchmode design with power factor correction (PFC). The first switchmode PSU buffers the amplifier from the AC mains by generating a very high DC voltage from which the *second* switchmode PSU delivers the rail voltages for the fully-screened power amplifier.

Meanwhile, although the building blocks of the amplifier are conventional – a differential voltage-to-current input stage, current mirror, voltage line/preamp stage and, crucially, a unity-gain power output stage employing 12 FETs – the way they are implemented, all on six-layer PCBs, is where the proprietary thinking resides. Halcro has always pushed at the limit of technical performance, now quoting a best-case distortion of –134dB/1kHz (<200 parts per billion or 0.00002%) which tallies well enough with the 0.00004% over the 2nd-4th harmonics measured with combined vector/RMS averaging at 10W/8ohm in my lab [see inset Graph]. Noise, meanwhile, is so low that the Eclipse is, to all intents and purposes, completely silent [see Lab Report, p47]. PM



RIGHT: The mains IEC socket and AC switch is located under the lower (PSU) enclosure – a red LED illuminates until the 'air pressure' switch under the upper (amplifier) enclosure is depressed. A blue LED indicates full operation

HALCRO
Eclipse stereo

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LEFT: Lattice-like side cheeks improve heatsinking airflow and provide access to the numerous bolts clamping the lower PSU and upper amplifier cases in place

APEX and Bowers & Wilkins 801 D4s [*HFN* Nov '21], the Eclipse produced a sound as compelling as it was startling. With Fred Hersch and Esperanza Spalding's *Alive At The Village Vanguard* [Palmetto Records PM2007], I was immediately taken by the intimacy of the sound, and the sheer enjoyment as Spalding speaks and sings her way through 'Girl Talk', interacting with the very present audience, as much felt during the music as heard when it reacts. Striking, too, is the way this amplifier renders the timbres of voice and piano, which is both delicate and totally revealing.

DRAMA KING

Even with a denser mix, such as Adam Lambert's lush *High Drama* [Much is More Records, 5054197308642], which has a sound befitting its title, the Eclipse gives the singer's voice absolute focus on his take on Culture Club's 'Do You Really Want To Hurt Me?' while still giving the accompaniment full value. And with his version of Noël Coward's 'Mad About The Boy' the performer is superbly delineated centre-stage, just as intended!

The other immediate impression this amplifier creates is one of massive power held under ruthless control, as is evidenced by conductor Gustavo Dudamel's self-released *Wagner* sampler with the Simon Bolivar Symphony Orchestra of Venezuela [48kHz/24-bit, via qobuz.com]. The way the amplifier hints at the drama about to be unleashed in the low opening chords of the 'Götterdämmerung' prologue is spine-chilling, but don't be too tempted to turn up the volume to listen even more closely as the final, explosive power will quite possibly rearrange your furniture. There's glorious fluidity in the brass and woodwind, and the violins as they take up the theme, with the building of volume as the orchestra swells just totally natural. It's thrilling stuff.

CAUTION TO THE WIND

All that clout and control also serves the driving beats and multiple layers of Bonobo's 'Otomo', from his *Fragments* album [Ninja Tune, ZENDNL 279]. The bass is tight, but oh so deep, and the ethereal vocal both clear and distant. Want the full deep house experience? Go on, then – crank the volume: it just gets louder, with no smear or loss of definition, but just great big pounding beats, the higher percussion clattering excellently above the low stuff, fizzing and buzzing electronica and a totally unstoppable drive. If your speakers can take it, the Eclipse will seemingly do it.

> 'The sound is both compelling and startling'

On which subject, at this point in my listening notes there's a telling line: it says, 'I don't think I've ever heard these big B&Ws driven so convincingly', and that's going some given the range of amplification we've heard fronting the 800 D4 series Diamond flagships in PM's listening room. Here, under the total control of the Halcro Eclipse Stereo, I got the impression they were really doing what they were built to deliver.

But the musical thrills kept on coming, deepening my affinity for this remarkable

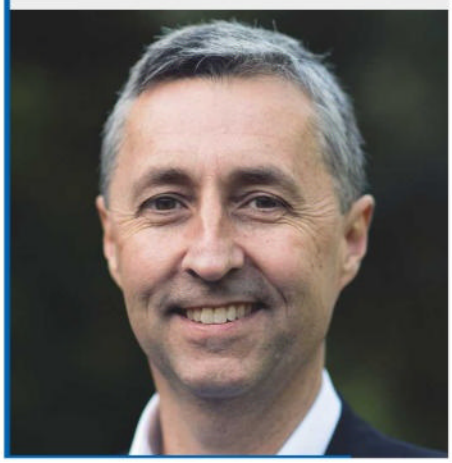
PETER FOSTER

'There are about a dozen conceptual ideas behind the Halcro topology that you won't find in other amplifiers', says Managing Director/CEO Peter Foster. Fully balanced/symmetrical operation is not key to the Eclipse's incredible technical performance, however.

'We don't strive for symmetry as some designers do', confirms Peter, 'it's just not achievable when you get down to the transfer characteristics of the devices. Our output stage is not especially radical. We use complementary FETs and a reasonably high quiescent current, but it's designed to be synergistic with the more innovative stages that come before it, and the overall distortion compensation topology'.

Halcro remains coy about levels of nested feedback within the Eclipse and how it has achieved such a vanishing low output impedance. 'The bandwidth of each internal stage is significantly higher than conventional amplifiers but the bandwidth of the output stage is only marginally so', Peter swerves...

Meanwhile, a new preamp is in the wings using Eclipse-inspired circuitry, but there's no launch date as yet. 'We are also developing a range of more affordable amplifiers', Peter reveals, 'and these will sit below the Eclipse in performance but will retain a lot of the qualities that make Halcro stand out. The electronics are largely complete and we are at the stage of getting prototype casework made. I also have a couple of unusual DAC concepts that have been rattling around in my head, but these are a long way off being validated'. As ever, watch this space! PM



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LEFT: Balanced (XLR) and single-ended (RCA) inputs lie alongside Halcro's gold-plated/rubber-coated speaker cable terminals. Removing the screw-down clamps reveals 4mm inserts for banana plug-terminated cables

amplifier. With The Sixteen's latest release, *A Watchful Gaze*, on its Coro label [COR16195; 96kHz/24-bit], the Eclipse illuminates both the voices and the musicianship of the ensemble as it marks the 400th anniversary of the death of William Byrd. Every note and syllable is crystal clear, and there's a wonderful sense of the voices hanging in, and decaying into, the reverberant acoustic of All Hallows, Gospel Oak.

MAGIC ACT

Similarly, with Chloe Chua's recording of the Vivaldi *Four Seasons* with the Singapore Symphony Orchestra, on Pentatone [PTC5187062, 96kHz/24-bit], the openness of the sound is as striking with the bite of the solo violin as it is with the combination of orchestral strings and organ. There's wonderful attack in the massed strings in the *allegro non molto* opening movement of 'Summer', delivering a superb sense of exuberance.

Bring it down to the intimate trio jazz of Estonian pianist Tõnu Naissoo's 'Broken Hopes', on his *Turning Point* album, remastered from the original Melodiya analogue release [APSoon Recordings APS02023; DSD64], and the Eclipse's 'maximum information' presentation is perfectly suited to the music, creating that magical 'in the room' presence. It's a trick it also pulls off with Van Morrison's rootsy *Moving On Skiffle* album [Exile/Virgin Music 4819141]. Here the old boy's world-weary voice is delivered with great character and focus, and the joyful performances of the band, with every contribution easily heard, add to the retro, light-touch feel.

This really is an amplifier for all musical styles, and entirely addictive. It may have its roots in one (exceptional) man's obsessions, and be imbued with a stack of myth and mystery, but this is a sensational revival of a legendary design, and entirely capable of rearranging your perception of music.

HI-FI NEWS VERDICT

If you're aware of the Halcro legend, the Eclipse Stereo confirms all those laudatory reviews of the past. If you're new to the brand, you'll just be blown away by the sheer confidence, poise and excitement it can deliver. This isn't just a very fine amp, with useful power and superb clarity. Rather, it's nothing short of revelatory, and with high-quality speakers will thrill and delight in equal measure.

Sound Quality: 90%

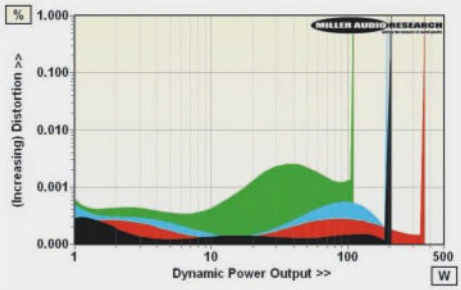
0 - - - - - - - - 100

LAB REPORT

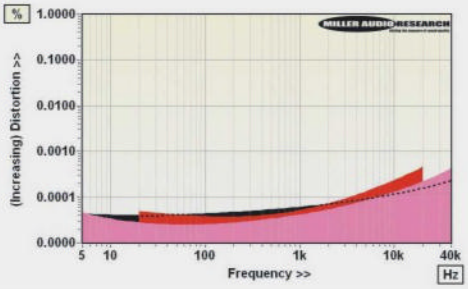
HALCRO ECLIPSE STEREO

Much about the Eclipse is truly exceptional, but it is not breaking any audiophile records for power output. Rated at 2x180W/8ohm and 2x350W/4ohm, it achieves 2x210W and 2x370W, respectively, though its clipping behaviour is very abrupt indeed. Class D and high-feedback Class AB amplifiers typically exhibit this type of behaviour, although we are assured the Eclipse is neither! The near-instant clip is readily observed on Graph 1 which shows the 'zero headroom' 210W, 371W and 195W achieved under dynamic conditions, and the current-limited 109W allowed into 1ohm. So the Eclipse is powerful *enough*, but it won't be giving D'Agostino [*HFN* Aug '22], Constellation [*HFN* Dec '19] or Michi [*HFN* Oct '20], *et al*, sleepless nights.

However, what Graph 1 starts to illustrate (within the limits of a 10-cycle/1kHz data acquisition) is the extraordinarily low levels of distortion incurred through the Eclipse [see boxout, p42]. THD is reasonably consistent with power output over the rated 180W range and is at its lowest around 100Hz at (best case) 0.00003%, rising to 0.00004%/1kHz and 0.00011%/20kHz [see Graph 2]. These are, by some margin, the lowest levels of distortion I have measured from any amplifier (and I have tested more than most in 40 years!), pushing at the limits of T&M hardware and processing software. The output impedance is phenomenally low ('Devialet-low') at 0.0015ohm (1.5mohm) through bass and midrange, conferring exceptional damping, while the response is a load-independent ±0.1dB from 20Hz-20kHz with –3dB limits of 3Hz-180kHz. The final, and equally astonishing, parameter is noise – so low that it achieves a record-breaking 106dB A-wtd S/N (re. 0dBW). **PM**



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 10.4A



ABOVE: Distortion versus frequency versus power output (1W/8ohm, black; 10W, pink; 100W, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	210W / 370W
Dynamic power (<1% THD, 8/4/2/1ohm)	210W / 371W / 195W / 109W
Output imp. (20Hz–20kHz/100kHz)	0.0015-0.018ohm / 0.17ohm
Freq. resp. (20Hz–20kHz/100kHz)	+0.0dB to –0.1dB/–2.05dB
Input sensitivity (for 0dBW/180W)	190mV / 2600mV (balanced)
A-wtd S/N ratio (re. 0dBW/180W)	106.3dB / 128.9dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.00004-0.00011%
Power consumption (Idle/Rated o/p)	205W / 650W (5W standby)
Dimensions (WHD) / **Weight**	400x790x400mm / 62kg

Three-way horn-loaded loudspeaker
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Supplied by: Henley Audio, Oxfordshire, UK
Telephone: 01235 511 166
Web: www.klipsch.com; www.henleyaudio.co.uk
Price: £21,999

Klipsch Klipschorn AK6

From crude prototype in 1938 to its initial production run in 1947, the Klipschorn was founder Paul W Klipsch's 'cornerstone' horn loudspeaker. How does it fare today? Review: **Andrew Everard** Lab: **Paul Miller**

Viewed from a modern perspective, there's more than an element of 'forget everything you know' about the latest incarnation of the Klipsch Klipschorn AK6, a classic now heading for its 80th birthday. It was designed in 1946 from earlier prototypes by company founder Paul W Klipsch – officially described by the US brand as 'genius, madman and maverick' – in an Arkansas tin shed, and it's been continuously made and refined ever since.

It is genuinely massive, standing 1.3m tall and 80cm wide as a two-part assembly coming in at 100kg a speaker. Then you have to ignore all you thought you understood about setup and positioning: these £21,999/pair speakers, recently 'repositioned' down from £22,599, are so sensitive at what the company calls 'an unbelievable 105dB/1W/1m' [see PM's Lab Report, p51] that they can be driven by the most emaciated of amps. And that old thing about keeping your speakers away from rear walls, side walls and especially corners? Forget it – the Klipschorn was originally *designed* to be used in-corner.

> 'The AK6s are the stuff of historical hi-fi folklore'

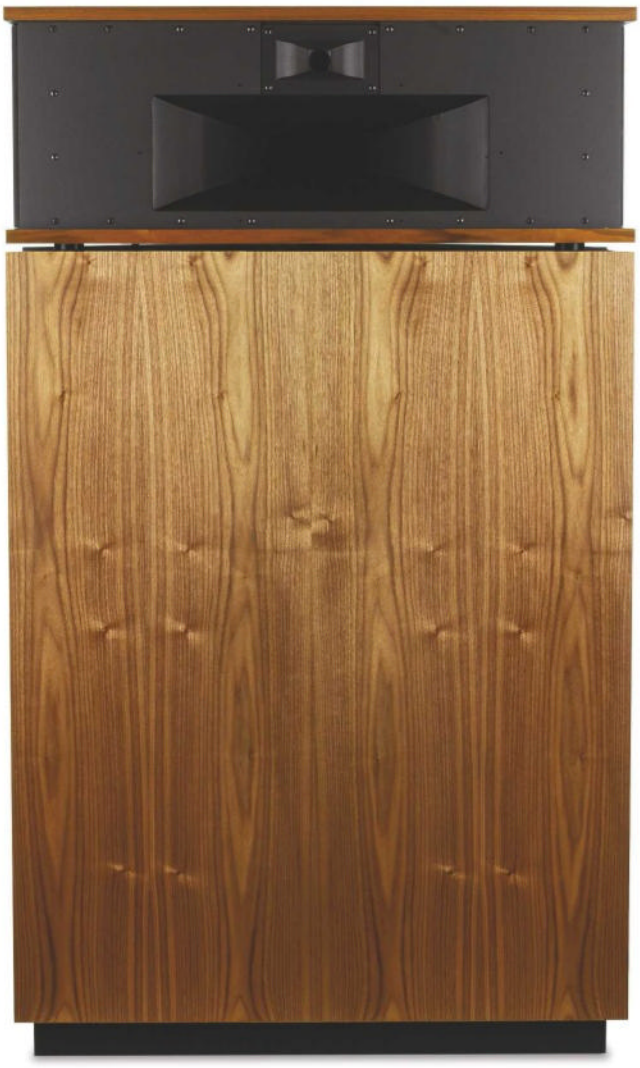
TWO'S COMPANY

Available in a choice of three real-wood finishes – black, cherry and walnut – this is the flagship of Klipsch's Heritage range. The maker says each pair is grain-matched, using 'wood veneer panels that come from the same timber' and cabinets carefully matched 'so that each speaker in the pair is practically identical to the other'. Practically, perhaps, but the grain patterning still sat slightly higher on one of the pair sent for review here. And, symmetrical or not, the Klipschorns dominate your eyeline in a way that today's slender, multi-bass-driver columns do not...

The AK6 is delivered in two parts – a massive bass 'bin' and a no less substantial 'head' containing the midrange and treble horns – which helps with the process of hefting them into place. Once assembled the speakers are brutally retro, so no wonder they're proving popular in hipster commercial applications, from coffee shops to clubs. For the domestic market, they still have a following among those brought up with family Klipschorns over the past decades, as well as those fully signed up to the hi-fi niche of 'single-digit-output valve amps and super-efficient speakers'.

Still handmade in Arkansas – it's hard to imagine how the construction of the speakers, with extensive use of birch ply, could be done any other way – the Klipschorn AK6 might look and operate like the 1946 original, but much has been improved within. The treble section uses an all-new 1in/25.4mm tweeter with a polyamide diaphragm, driven by a 'motor' with neodymium magnet and copper-clad aluminium voice coil. This is coupled to a 90°x40° Tractrix horn, while the midrange is handled by a 2in/5.08cm compression driver with a phenolic diaphragm, combined with a high-efficiency exponential horn [see p51]. These two drivers can be hidden by a silver metallic grille or left on show, depending how macho you want your AK6s to look.

Meanwhile, the Klipschorn's bass is delivered by a 15in/38.1cm fibre-composite cone driver working into a 'trihedral exponential folded horn', this arrangement being one of the major changes in this latest version. Klipsch's redesign means the speaker no longer needs to be rammed tight into a corner to give of its best, but merely close to a corner, and this allows a little more flexibility when it comes to toeing in the speakers to enhance their stereo imaging.



RIGHT: Top cabinet houses a 1in K-771 tweeter and Klipsch's 90°x40° Tractrix horn above a 2in K-55-X compression driver and large exponential horn

The cabinet is slightly elevated on wooden feet (no modern spikes here!), with cable management channels to allow your wires to run up out of sight to the input terminals on the 'inner' side of the enclosures. These provide connections for bi-wiring/bi-amping with links for single-wiring, behind which are exposed, colour-coded cables running to each section of the speaker, all internal wiring using AudioQuest's Type 4 speaker cable.

THE GOOD OL' DAYS

The AK6 is far from the largest speaker to have graced PM's listening room, but few have had such visual impact [see p39], the lack of apparent bass driver, gaping horn-mouths and unusual positioning ensuring they look like no other. However, one must bear in mind these are part of historical hi-fi folklore, so while they're mighty impressive in what they do, they do it in a decidedly vintage style, rather than challenging current designs head-on.

THE CORNERSTONE

The guiding principles of Paul W Klipsch's first Klipschorn speaker are best illustrated by his statement that 'the midrange is where we live', and indeed that first design was all about its midrange driver, complete with a 60cm-wide horn made from impregnated wood. Meanwhile, the corner placement was all about delivering deep bass by incorporating the room into the horn design: to do this in a free-standing model would have meant more woodwork and a bigger, heavier and costlier speaker – singular in those mono days! Over its life the speaker gained an aluminium midrange horn and a dedicated tweeter, built into the same cabinet section as the mid, while the bass driver grew from a 12in/30cm unit to the current 15in/38.1cm. Extra panels were added to the bass box, making the speaker easier to install in the kind of commercial situations where it has proved popular, as it was now less reliant on corner reinforcement. Mind you, in the process it has more than doubled in weight to 100kg, and now you need two of them!

LEFT: Lower birchwood/MDF bass cabinet (in Satin Black Ash, American Walnut or Natural Cherry finishes) hosts a 15in K-33-E fibre/pulp bass cone working into an exponential folded horn

For openers, don't conflate that 105dB sensitivity rating with PA-level thunderers, not least because the AK6's bass extension is modest for the prodigious size of both driver and enclosure. Yes, they'll blast hard if you're less than restrained with your volume control, with a quoted continuous output capability of 121dB, but whether you'd want them to is a different matter.

Rather, those high figures mean caution is advised when switching between tracks from different recordings, in case of unexpected differences in level. When sourcing music from the Aurender W20SE streamer [*HFN* Mar '23], I soon adopted a vinyl-playing procedure of turning the level right down, switching recordings and then cautiously advancing the volume once more.

These are definitely old-school 'choose your album and play it right through' speakers, better suited to relaxed listening than quickfire darting around your collection. I don't know why Perry Como's 'Magic Moments', with its velvety voice, close-harmony backing from the Ray Charles Singers and gently bouncing bassoon accompaniment, kept springing to mind when listening to the AK6, save that I formed the impression this 1957 easy-listening classic would be ideally suited to the speakers, and vice versa.

HORN AND BRED

Yes, they sound persuasive with Anna Lapwood's organ transcription of Britten's 'Sea Interludes', from her *Images* album [Signum SIGCD688; 96kHz/24-bit], but in a relaxed manner that's better suited to the gentle sound-picture of 'Dawn' than the thundering, complex 'Storm' climax. Yes, crank up the level and the AK6 will pressurise the room, but there's not quite the conviction in the bass I'd anticipated, and a reduced sense of the scale of the massive Ely Cathedral instrument, and the space in which it's being played.

Similarly, with the Tallis Scholars' classic recording of Allegri's 'Miserere' [Hyperion/Gimmell CDGIM 639], the Klipschorns deliver a pleasant enough wash of sound, being both rich and warm, but there's not all the three-dimensionality to the sound experienced through more revealing speakers. It's noticeable how high these cast their rather soft-focus stereo image

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LEFT: Side view reveals length of exponential mid horn. Flying leads from mid and treble drivers pass through the boxes to the crossover in the bass section. Grilles cover the voids

– whatever you choose to play has that 'music heard from the stalls' effect. That's fine with a 'churchy' recording such as this, or the slow-burning Vaughan Williams 'Fantasia On A Theme Of Thomas Tallis', from the recent Sinfonia of London/John Wilson release [Chandos CHAN 5291; 96kHz/24-bit], but slightly odd with more intimate recordings.

MATCH-MAKING

Firmly on the 'not suited' list is 'New Year's Day' from the 2008 remastered edition of U2's *War* [Mercury, Island *et al*; 1761675], where the brash attack of the track sounds too thin at high levels here, the vocals slightly abrasive and lacking substance. There is always the temptation to push them further – easy to do with minimal wattage – but you are unlikely to be rewarded with extra weight or warmth. It all goes to show how important it is to match the music to the speakers when the Klipschorns are in town.

But there is always an upside, and things are on much safer ground with Sting's 'It's Probably Me' from the deluxe edition of *Ten Summoner's Tales* [A&M download; 96kHz/24-bit]. This is a very relaxed, almost downbeat track, with a well-recorded rhythm section and distant sax punctuations. The lead vocal is more 'just there' than precisely imaged, though, and the same is true with Mark Knopfler's big, lush 'Prairie Wedding' from his *Sailing To Philadelphia* set [Warner Bros. download; 48kHz/24-bit].

CLUB VIBES

The AK6 is more comfortable with warm, rich recordings like these, and proves really at home playing small-ensemble jazz. 'Shepherd Song' from the Tord Gustavsen Trio's *Opening* album [ECM download; 96kHz/24-bit] features gentle piano, shimmering cymbals and muted bass and drums, all rendered in suitably 'small jazz club' style. The 'straight down the line' bop of Kyle Eastwood's 'Bullet Train' [*Time Pieces*; Jazz Village JV 570034] is also driven convincingly by the AK6s, the brass of Quentin Collins and Brandon Allen delivered cleanly and crisply. And with Eastwood's theme from 'Letters From Iwo Jima' on the same album, these speakers handle the simple piano and bass instrumentation persuasively. When the Klipschorns are in their element, the music can be very compelling indeed.

HI-FI NEWS VERDICT

Just as a classic car, however well-fettled, is at best a trip into nostalgia rather than an everyday driver, so the Klipschorn AK6s – while an insight into the hi-fi of years past – really can't be recommended in the light of more modern rivals. Yes, if you like what they do and want a sensitive, if muted, blast from history, you may love them, but you'll need to listen long and hard to ensure they match your musical tastes.

Sound Quality: 75%

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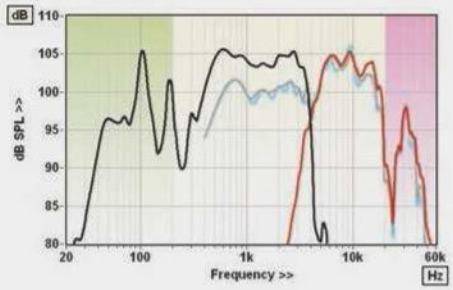
LAB REPORT

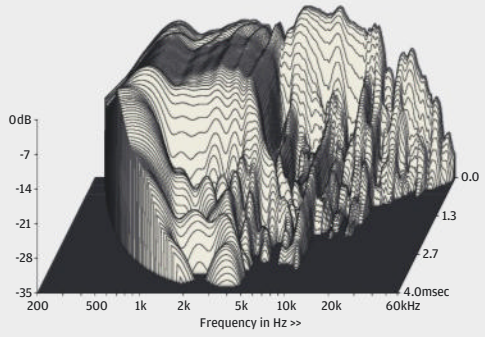
KLIPSCH KLIPSCHORN AK6

Such is the difference in acoustic centres/path lengths of the drivers – between the treble and mid/bass horns in particular – that the wavefront from the former arrives significantly ahead of the latter, complicating the time-windowed response measurement. The step function at the 4.5kHz crossover is clear enough on both the forward response [grey trace, Graph 1] and CSD waterfall [see Graph 2], a feature ameliorated at greater listening distances. Note that the huge mid/treble grille panel adds its own ripples through the midrange [blue trace, Graph 1] but that any HF horn resonances [Graph 2] are generally more subdued than we've seen with other horn-loaded designs. THD – entirely 2nd harmonic – is <0.7% (20Hz-20kHz, 90dB SPL).

Normalising each path length to 1m and plotting separately, including a diffraction-corrected nearfield below 400Hz, realises a far flatter, more even 'real world' output [bass/mid, black; treble, red] with errors of just ±2.8dB and ±3.0dB, respectively, from 400Hz-18kHz (the HF response rolls away thereafter to –6dB/~19kHz). The 3.1dB pair matching is also a function of variations in HF output but this has no practical impact on the 104.2dB/1kHz sensitivity, a figure lifted to 105dB with IEC/perceptual-weighting (200Hz-20kHz). Bass is not as 'big as the box' and drops sharply below 50Hz while its output is dominated by three modes at 105Hz, 190Hz and 300Hz [green shaded area, Graph 1]. Otherwise, while the AK6 will raise high sound levels with very low-powered amps, it is not quite the '8ohm' load specified – the 2.8ohm/110Hz minimum and ±50° phase angles yielding a harsher 1.3ohm/120Hz EPDR. **PM**



ABOVE: Resp. inc. nearfield summed bass horn [green], all freefield corr. to 1m at 2.83V [yellow], ultrasonic [pink]. Bass/mid, black; treble, red; uncorrected, grey



ABOVE: Path delay between the mid and treble is clear at 4.5kHz but horn resonances are 'relatively mild'

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	104.2dB/104.4dB/105.1dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.75ohm @ 109Hz 21ohm @ 1.62kHz
Impedance phase: minimum & maximum (20Hz–20kHz)	–49° @ 43Hz +50° @ 220Hz
Pair matching/Resp. error (200Hz–20kHz)	3.1dB/ ±2.8dB/±3.1dB
LF/HF extension (–6dB ref 200Hz/10kHz)	41Hz / 18.8kHz/19.8kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.65% / 0.35% / 0.50%
Dimensions (HWD) / **Weight** (each)	1346x794x718mm/100kg

Tube phono preamplifier
Made by: PrimaLuna, The Netherlands
Supplied by: Absolute Sounds Ltd
Telephone: 0208 971 3909
Web: www.primaluna-usa.com; www.absolutesounds.com
Price: £3398

PrimaLuna EVO 100 Tube Ph.

Dutch tube aficionado, PrimaLuna, has offered an optional solid-state phono module with its amps for years, but now comes its first standalone, all-tube MM/MC preamp
Review: **Ken Kessler** Lab: **Paul Miller**

With vinyl sales now surpassing CD [see p103], the revival is back with such force that the flood of phono stages and decks will surely continue unabated. More than that, it's enough for PrimaLuna to show its confidence in analogue to bring out its first EVO phono amp, the EVO 100 Tube Phono Preamplifier at £3398.

It's clear this unit is aimed at seasoned vinyl users, smack in the price range of 'second or third upgrade' where one expects a full complement of features and facilities, even from a genuinely 'all-tube' design hosting no fewer than ten valves. Around the back are just two sets of RCAs, one for input and one for output, plus a 3-pin IEC mains socket, fuse and earthing post. On the lefthand side is a rocker for power on/off, while on the right is one for selecting two levels of MM capacitance: 47pF or 100pF. Pure simplicity…

MAKING GAINS

On the front panel, a rotary provides five wisely chosen MC loads of 50, 100, 200, 500ohm and 1kohm. I realise that in a perfect world there would be infinitely variable impedance selection, but you'd be hard-pressed to find cartridges this cannot match. Expanding this, though, is a knob on the right choosing low, medium or high gain. The MM section is specified at 40dB, while the MC settings up this to 52dB, 56dB, and 60dB [see PM's Lab Report, p55]. Between the rotaries are soft-touch buttons selecting MC or MM cartridges and mute. The EVO 100 Phono has a proprietary 'SoftStart' warm-up stage with a time of around one minute, ensuring no nasty thumps through the system.

Physically, this 12kg unit is imposing for a phono stage, closer in presence to models like the 19in rack-mount types, including EAR/Yoshino's 912 or Audio Research's full-width phono amps [*HFN* Dec '16]. It's made from heavy-gauge steel, which is fully vented so it never seems to run hot despite the valve complement of two 5AR4s for power supply rectification, two EL34s for power supply stabilisation, and four 12AX7s for the MM section, all contained under the curved glass-and-metal cage. A brace of 6922s for the MC stage is hidden away in the back, accessible via a small panel [see p55]. This is good news for enthusiasts; I am certain PrimaLuna fitted decent glassware, but there will be hobbyists who can't resist tampering. Every one of the chosen types is common, so knock yourself out with, say, NOS Brimars or Mullards or whatever tickles your fancy.

> 'The notes slid from the speakers, fluid and seamless'

PrimaLuna's look is now familiar, with a narrow but deep footprint, and the chassis boasts five coats of hand-rubbed, polished paint and a brushed fascia in black(ish) or silver. Inside, it's all point-to-point wiring, and the rotaries have a fabulous feel and scroll, landing on each setting with a 'click'. Also to please the fastidious are ceramic valve bases, Nichicon and DuRoch capacitors and gold-plated sockets.

Fortunately, I didn't have to test the PTP (Power Transformer Protection) circuit, which reacts if the power transformer overheats due to environmental circumstances, overloading or other issue. For peace of mind for nervous types, an internal thermal switch breaks the primary. After it's cooled, and if nothing is amiss, the EVO 100 Tube Phono preamp will 'repower' and function properly.

ROOM FOR ONE MORE?

One line in PrimaLuna's pitch bothered me, however, given that this is not a basic, minimalist nor economy-priced model. It states that, 'The starting point in designing this model was to keep the controls and features as specific as possible – no special features for only a select number of users'.

RIGHT: Under the EVO 100 reveals high-quality ceramic tube bases, point-to-point wiring, Takman resistors [flesh-coloured], Nichicon [brown] and DuRoch caps [white], and MC stage with relay-switched gain/loading [top right]

LEFT: The EVO chassis has rotaries for MC gain and loading (MM has fixed gain/loading). The main RIAA stage features a pair of 12AX7 tubes per channel [front row] with EL34 pentodes and 5AR4 rectifier tubes in the PSU [back row]

This compels me to voice two observations, even if it causes PrimaLuna founder Herman van den Dungen to commission a voodoo doll of me to pierce with needles.

The first is that, considering its price, complexity and size, installing two sets of inputs should not have troubled PrimaLuna one iota. Many heavy users of LPs own two decks, while turntables fitted with two arms are an even better, space-saving solution for those with multiple cartridges.

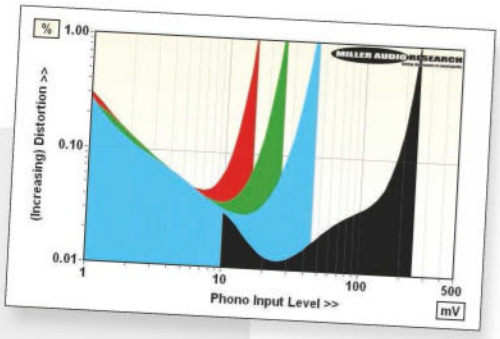
As for the second, it's the fitting of a volume control and variable output. This would have turned the EVO 100 into a perfect, dedicated control unit for someone who only uses vinyl. I have a sub-£1000 Pro-Ject phono stage with two sets of inputs and outputs, while EAR-Yoshino's PhonoBox [*HFN* Dec '19], under £2000, has an output level control. It can be done…

T-REX APPEAL

Enough of my grumbling because the sound is – like the DeVore O/93 speakers [*HFN* Mar '23] – a delightful taste of the time when dinosaurs and LPs roamed the earth. From the get-go, I was awash with the kind of lushness which, on the most basic level, has been the distinguishing character trait which separates analogue from digital. Irrespective of the albums I played, including One-Steps with digital stages, the experience was 'vintage' – but in a good way.

Let's get one thing clear from the outset. With the exception of (London) Decca cartridges, which are out there in their own space, the EVO 100 Tube Phono excels with moving-coils, as these are more simpatico with the overall nature of the unit. That said, if you find it too warm, moving-magnets from Ortofon and others add a touch of coolness or even restraint.

Having ascertained that the Ortofon MMs – three different colours of 2M – were sounding of their best and even benefitting from the very tubes that they corralled, I moved onto MCs, including an aged Tsurugi (which sired Lyra), the EAT Jo N°8 [*HFN* Dec '19], and the reborn Kiseki [*HFN* Jul '18]. It was here that I began to appreciate the phono stage's two-pronged approach of matching gain and impedance. To my delight, none of the settings were best at the manufacturers' recommended values, the EVO 100 reinforcing my belief that you need to set your cartridges by ear.



LONG LIVE THE KING!

It started on a personal note, because one of the first singles I ever owned was given to me by my sister, Elvis Presley's 'Can't Help Falling In Love' from *Blue Hawaii.* Of late, I had been revelling in the recent 2x45rpm LP from Mobile Fidelity [MFSL2-504], which had already revealed itself to be a must-own if you're a fan of the King. And if you love early RCA, you're gonna be delighted with the sound.

MAKING HEADROOM

Most cartridge brands specify their pick-ups' output with reference to a 1kHz/5cm/sec groove where figures of 3-6mV for MMs and 0.2-0.8mV for MCs are typical. In practice, groove velocities some +18dB higher may be encountered on the 'fiercest' of discs – the longstanding Ortofon 2Ms [*HFN* Oct '08, Mar '11 and Jun '21] will deliver peak outputs up to 50mV here – so phono stages must be able to accommodate these inputs without clipping further into the RIAA circuit. Because tube preamps offer the possibility of high-voltage gain stages it's tempting for designers to opt for a 'purist' passive RIAA eq network rather than a wholly or partially active RIAA where the equalisation is folded into a tube or transistor feedback stage. But with passive RIAA soaking up a lot of gain these preamps often have limited headroom/input overload margins, as we saw with ModWright's PH 9.0 [*HFN* Feb '22] and the Zesto Andros Deluxe II [*HFN* Sep '21].

Instead, PrimaLuna is playing it very safe and very 'compatible' in the EVO 100 Tube Phono where its active RIAA confers very generous input overload margins. For example, the MM input will tolerate up to 250mV before clipping [black trace, inset Graph] – a massive +34dB of headroom over the 5mV output of our hypothetical MM. By contrast the PH 9.0 offers just 14mV of 'breathing room' before distortion hits 1% (a mere +9dB headroom). The EVO 100 Tube Phono is equally generous/tolerant of high MC outputs, offering +38.7dB [blue trace], +34.3dB [green] and +30.1dB [red, all re. 0.5mV MC] with its 'Low', 'Medium' and 'High' gain settings, respectively. This means it'll even accommodate the nominal ~2mV/5cm/sec output of a 'high output' MC, traversing maximum +18dB groove peaks, into its 'High' gain input without clipping. PM

MUSICAL FIDELITY

INTRODUCING THE:

M8xi

The M8xi is a preamp with two monobloc power amps combined. Each monobloc employs its own heat sink and separate transformer, while the preamp gets its own dedicated power supply mounted close to the input sockets. Consequently, PCB tracks are very short. This elegant design ensures that both channels' signals are ultra-low impedance the instant they get into the amplifier. Each channel has 12 bipolar transistors - 200 amps peak-to-peak is easily achievable. The front panel is a custom-made fine line extrusion of milspec aluminium, keeping its clean style easy to maintain.

Never settle for anything less than perfect Musical Fidelity.

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ABOVE: The EVO 100 offers one set of RCA inputs and outputs, the former switched between MM and MC via the front panel [p53]. Two 6922 double-triodes form the MC headamp, on a 'floating' PCB, seen here inside the case with the rear plate removed

While that track is both my favourite on the album and the standout, as there's a bit too much 'novelty' on the rest of it, I was not prepared for the added richness to the vocals. The faultless realism, even with lesser systems, was upped by an even greater lack of artifice, especially an absence of sibilance.

As readers know I seem to judge everything by vocals, but it was something else entirely which cemented my admiration for the EVO 100. Pedal steel on a country album, or Hawaiian guitar as heard throughout, are like-sounding instruments which are unmatched for gauging what can only be described as 'liquidity' – a clarity which exposes unwanted edges or grain. Via the EVO 100 Phono, the notes slithered out of the loudspeakers, as fluid and seamless as I have ever heard at the price.

PRESSING ON

As ever, an audiophile pressing bestows an advantage on a system which 99.9% of pressings – normal releases, that is – do not share. So I dug out two terrible transfers, plus a vintage RCA to see if the warmth of *Blue Hawaii* was shared with Arthur Fiedler and the Boston Pops' *Jalousie* [RCA Living Stereo LSC-2661] from 1963. Admittedly, this orchestra playing Latin-flavoured material, such as 'La Sorella' and 'Zacatecas', was as far removed from the *Blue Hawaii* soundtrack, but with it came another revelation courtesy of PrimaLuna's phono stage.

I could swear there was a familial resemblance to the overall sound, across the pieces, including the scale of the portrayal. Okay, so orchestra-vs-studio creation is an apples/oranges scenario, but it was there and says as much about MoFi's skills with 60-year-old recordings as it does PrimaLuna's general prowess with soundstage and air.

FOR MY NEXT TRICK

It required the other extreme – two mediocre-sounding compilations – to find the EVO 100 also possessed that near-magical 'valve skill' of balancing detail, transparency and accuracy. *Off The Record With The Move* [Sierra FEDD1005] does that brilliant band no favours, while the hugely collectible *The Most Collection Vol 1* [Music For Pleasure MFP50015], with a dozen Mickey Most masterpieces from The Yardbirds, Jeff Beck, Rod Stewart, The Animals and others, reminded me why MFP stood for 'Music For Pain'.

No, PrimaLuna's EVO 100 Tube Phono did not elevate either to the level of their original pressings. Instead, it exposed the gap between them. But the overall gentility of this phono amp? It rendered them listenable which, in this instance, is high praise indeed!

HI-FI NEWS VERDICT

PrimaLuna has, again, bridged the gap between mid-level and high-end with a superb, and – despite my two reservations – versatile phono stage which will be adored by those who prefer all-valve components. Not hybrid, not solid-state, but all-tube and with so much warmth and air that its sound can only be described as 'cosseting'. Fans of the brand – and I still use a Mk I ProLogue Two – are gonna love this.

Sound Quality: 87%

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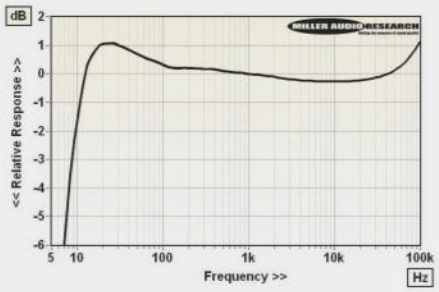
LAB REPORT

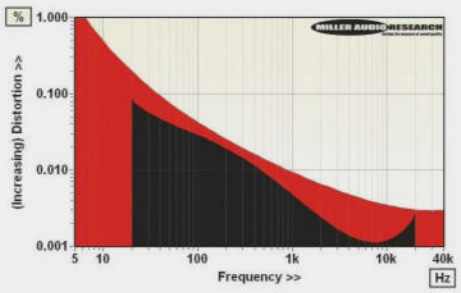
PRIMALUNA EVO 100 TUBE PHONO

More than a few 'tube' phono stages will still employ, for example, a low-noise J-FET MC input/gain stage, so all-tube phono stages that offer a decent gain range, low noise and healthy input overload margins [see boxout, p53] are rare. PrimaLuna's EVO 100 Tube Phono belongs in that latter category, even exceeding the brand's own specification in several key areas. Gain is indicated at 40dB (MM) and 60dB/56dB/52dB for the High/Medium/Low MC settings, and while the former +40dB/MM spec. is correct, the MC options are, in practice, closer to +63.9dB, +59.8dB and +55.5dB, respectively. So the EVO 100 has sufficient gain to accommodate low-ish output MCs (ideally no lower than 300µV types) matched with a huge headroom of 250mV (MM) and 16mV (MC, High), 26mV (MC, Medium) and 43mV (MC, Low) to buffer it against the very highest output pick-ups in the most demanding of playback roles.

Noise is below the vinyl threshold and so the A-wtd S/N ratios of 79.1dB (MM) and 63.2-64.7dB (MC Low to MC High) are adequate if not up with the best solid-state designs. The RIAA-corrected response is also subtly 'shaped' [see Graph 1] to offer a +1dB boost around 20Hz while also offering a steep attenuation of warp frequencies. Distortion decreases with increasing input/output level until 2V output above which THD increases again from 0.015% to 0.02%/4V, 0.04%/10V and 1% at the maximum (and massive) 25.1V output. It's probably no coincidence that PrimaLuna specifies its best distortion at 2V output but, unusually, the lowest THD is at a high 10kHz frequency (0.001%) as illustrated by the THD vs. frequency traces [see Graph 2]. Again, these figures are not vanishingly low but are still lower than the levels of distortion typically encountered with even the finest MM/MC pick-ups tested in *HFN*. **PM**



ABOVE: RIAA-corrected frequency response from 5Hz-100kHz re. 0dBV (MM gain setting)



ABOVE: Distortion vs. frequency with MM gain setting (black, 0dBV, 20Hz-20kHz; red, –6dBV, 5Hz-40kHz)

HI-FI NEWS SPECIFICATIONS

Input loading (MM/MC)	47kohm/100pF-1nF / 50ohm-1kohm
Input sensitivity (re. 0dBV)	10mV / 1.67mV / 1.02mV / 640µV
Input overload (re. 1% THD)	250mV / 43mV / 26mV / 16mV
Max. output (re. 1% THD) / **Imp.**	25.1V / 160-380ohm
A-wtd S/N ratio (re. 0dBV)	79.1dB / 63.2-64.7dB (MM/MC)
Freq. resp. (20Hz-20kHz/100kHz)	+1.1dB to –0.28dB / +1.1dB
Distortion (20Hz-20kHz, re. 0dBV)	0.0011-0.085%
Power consumption	85W
Dimensions (WHD) / **Weight**	280x190x405mm / 12.7kg

SACD player and amplifier. Rated at 2x70W/8ohm
Made by: Masimo Consumer, Irvine, CA, USA
Supplied by: Masimo Consumer Europe, The Netherlands
Telephone: 02890 279830
Web: www.denon.com; www.masimo.co.uk/consumer-audio
Prices: £1299/£1699 (SACD/amp)

Denon DCD/PMA-1700NE

Denon has been in existence for 111 years, resolutely supporting CD playback for the last 40. Its latest CD disc spinner handles SACD too, and joins the 1700 series amplifier
Review: **Jamie Biesemans** Lab: **Paul Miller**

The Denon duo in the limelight here are an obvious refresh of the previous generation DCD-1600NE disc player and PMA-1600NE amp, introduced in 2017, rather than entirely new designs. Partly that's because both the £1299 DCD-1700NE and £1699 PMA-1700NE look very similar, if not identical, to their predecessors. The solid construction, metal front fascia that curves to ensure the Denon logo catches the light, the weighty volume knob in the middle of the amp, the old-school tone controls… it's all very par for the course, as is the choice between black or silver colourways.

But such conservatism is probably to be expected from Denon – the Japanese company is now 111 years old, and not known for exploring radical industrial designs. It would have been more surprising if it had introduced a whimsical new-look aesthetic, especially in the stolid DCD/PMA range which remains the mainstay of its two-channel offering.

TOP OF THE POPS

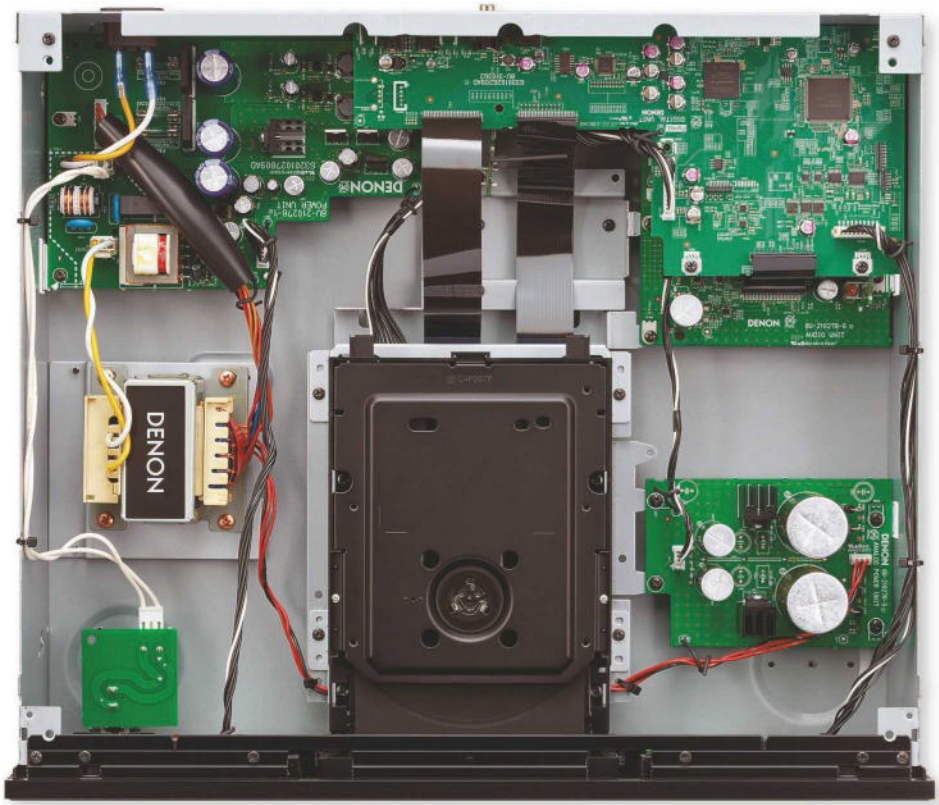
On the face of it, the DCD-1700NE and PMA-1700NE are 'only' upper mid-level models in Denon's hierarchy. In reality, though, the hardware positioned above [currently the DCD/PMA-2500NE, *HFN* Jul & Aug '16] is exceedingly hard to find, making these newcomers the default upper-tier stereo offering for 2023. Is Denon planning to update its flagship integrated amp and disc player? No news on that – yet.

The PMA-1700NE is competing against integrated amplifiers including Hegel's H95 [*HFN* Oct '20], NAD's C389 and Rega's Elex MK4, among many others. But the Japanese company seeks to differentiate itself by including more features, broader connectivity and greater onboard grunt than most of those rivals. Additionally, there are very few other brands offering both an integrated amp and matching higher-end disc player. A twinned set-up, like the DCD-1700NE and PMA-1700NE, is very much a Denon thing. You end up with a hi-fi system which, albeit traditional in style, covers (nearly) all the bases.

The PMA-1700NE is meant to be a real powerhouse capable of driving most loudspeakers. Employing Denon's beloved 'UHC (Ultra High Current) Single Push-Pull Circuit', this Class AB integrated is rated at 2x70W/8ohm but proves more generous than that [see PM's Lab Report, p61]. It's well endowed for an integrated amp selling for £1699, especially one that can be fitted into a number of scenarios. Its slew of digital and analogue inputs, including a dedicated phono stage capable of handling both moving-magnet and moving-coil cartridges, makes the PMA-1700NE a versatile machine. There's also a handy auto-sense function that can be activated on one of the optical/coaxial inputs, which will power up the amp when a connected source (typically a TV) is switched on.

> 'Perhaps the much-vaunted CD revival will kick in soon'

Via Denon's familiar Advanced AL32 Processing Plus DSP, digital feeds are upsampled to 384kHz/32-bit LPCM prior to conversion to analogue. However, if you are using an analogue connection from the DCD-1700NE (or another source, such as a turntable), you can engage the PMA-1700NE's 'Analog Mode', which shuts down the digital stage. Furthermore, opt for Analog Mode 2 and the amp also switches



RIGHT: DCD-1700NE's SVR mech [centre] plays CD, SACD and DVD ±R/RW data discs. Altera Cyclone IV DSP [top right] hosts Denon's 'Advanced AL32 Plus' upsampling, feeding a TI PCM1795 DAC [top centre]

LEFT: DCD-1700NE [top] keeps its curved fascia simple with basic track access and 'Pure Direct' controls flanking an elegant display. The PMA-1700NE includes defeatable tone controls and large volume/input rotaries

off its modest front-panel display. Neither of these modes made a huge difference to sound quality, but there's obviously no harm in engaging them when you're not using a digital input.

GETTING PHYSICAL

The arrival of the DCD-1700NE underlines Denon's love for the music CD [see PM's boxout, below]. Long after most competitors have withdrawn from the arena, the company continues to support the disc format with new players. The relative popularity of physical media in Japan – even to this day – is sufficient motivation, and maybe that much vaunted CD revival will start kicking in soon, eh?

The philosophy behind the DCD-1700NE might seem austere but it's all about paring off unnecessary fat. That's why it embraces both the Red Book CD format as well as SACD but eschews all forms of streaming and external file playback. It will certainly recover audio files burned onto CD-R/RW and DVD±R/RW discs but there's not a USB-A port for an external drive, which is one functional disparity with the CD 60 [*HFN* Sep '22] from sister-brand Marantz and Denon's own DCD-900NE – both more affordable. Nor are there any network, USB-B or legacy S/PDIF digital inputs on the DCD-1700NE to connect external sources to the internal TI PCM1795 DAC, a marked difference to competing players like Rotel's DT-6000 [*HFN* Aug '22]. That latter machine lacks SACD playback but is otherwise so flexible Rotel calls it a 'DAC Transport' rather than a CD player.

Still, if the DCD-1700NE's specification sounds somewhat meagre, it stems from Denon seeing it as a natural complement to its sister amplifier and wanting to avoid unnecessary duplication of effort.

So, in stark contrast to the disc player, the PMA-1700NE integrated positively brims with connectivity. Okay, streaming isn't built in, which is both understandable considering Denon's design philosophy but also strange as the brand doesn't currently offer a standalone streamer. Instead, the PMA-1700NE features a USB-B connection for hooking up a network transport or computer. This is a scenario which Denon is heavily promoting, as it allows you to feed the amplifier hi-res files up to 384kHz/32-bit as well as DSD256.

WHEN TWO BECOME ONE

This DCD/PMA pairing sounds superb as a single system, the two units combining to deliver a rich, impactful sound, but with plenty of subtlety and precision. Denon's amplifier is rewardingly powerful, ensuring largescale pieces are conveyed with the appropriate heft, yet the crucial and subtle brush strokes of music, whether played from the DCD-1700NE or from other sources into the PMA-1700NE, aren't neglected. This two-box system might have acquired 'top-range' status by default, but it certainly wears it well.

DENON'S DEDICATION

Denon's claim of an 'ongoing commitment to physical music formats' is no idle boast. Right back in the earliest days of CD, Denon was not only in the vanguard of hardware development but was also heavily involved in digital recording technology and supporting software with its (largely) classical-based silver disc repertoire. Its first CD player, the DCD-2000, was based on Hitachi's much-cloned DA-1000 [*HFN* Sep '16] and was swiftly followed up by the in-house, draw-loading DCD-1800 which also saw the introduction of its nascent 'Super Linear Converter'. The marque was first in line with a universal CD/SACD/DVD-A player, the DVD-2900 [*HFN* Sep '04], subsequently boosted with multichannel 192kHz/24-bit DACs, beefier power supplies and a raft of additional DSP in the champagne-gold DVD-A11 [pictured, *HFN* Feb '04].

Once Blu-ray had won out over HD-DVD, Denon was again in the front row with its fully-fledged BD/DVD-A/CD/SACD player, the DVD-A1UD [*HFN* Oct '09]. The player even included a front-mounted SD card slot (up to 8GB) for playback of LPCM, AAC, WMA and MP3 audio files plus JPEG and DivX picture/video media. This was about as 'universal' as disc/media players ever got, and with the withdrawal of OPPO from the hi-fi market – its UDP-205 [*HFN* Jul '17] being the last of the true heavyweight universal players – Denon is one of very few longterm specialist hi-fi brands to bring fresh CD/SACD players to market. PM

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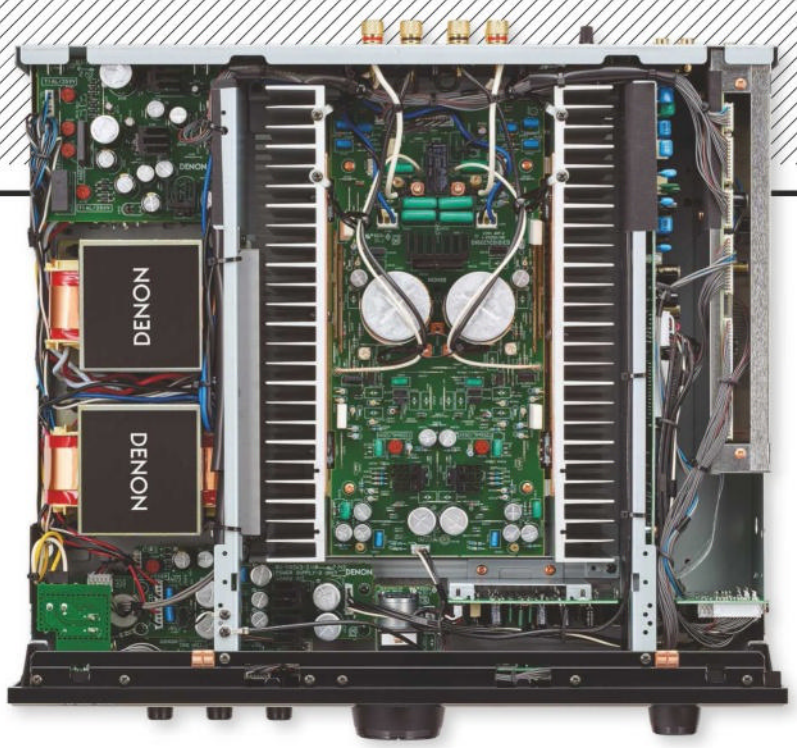


ABOVE: PMA-1700NE is as 'dual mono' as Denon can make it, including two PSU transformers [far left] feeding the power amp [one FET pair per channel on heatsinks]. The AL32 DSP/PCM1795 digital section is separately screened [top right]

SACD is seen by many as dead and buried, yet there are specialist labels still churning out the format. Norway's 2L, for one, is particularly generous to anyone buying its DXD recordings on disc – you'll generally find a hybrid SACD and a Blu-ray in the case, allowing you to choose whatever format tickles your fancy. The label's *European Tour* SACD [2L-128-SABD], with the Nordic Brass Ensemble, is a fine example of its prowess. It features excellently recorded Renaissance works from across Europe, and this new Denon duo paints them convincingly on a grand canvas.

From the blast that is the opening four (of the 32) tracks, the DCD-1700NE and PMA-1700NE displayed a dynamic, full-bodied soundstage, making for a thrilling listen. But it is Arauxo's 'Battalla de Morales' which showed it was not all about fury and flair; there was true refinement here too, allowing me to savour the skill of the nine brass players. This ability to handle dynamics without losing sight of the overall balance and detail made the six-part 'Suite Terpsichore' particularly enjoyable. The horns and other brass instruments were the attention-grabbers of course, but this Denon system also pointed out the softly applied period percussion, emphasising the 'back-in-time' feel of this collection.

And while the amplifier is in a price class below my go-to Focal Sopra N°2 loudspeakers [*HFN* Sep '15], at no point did it feel underpowered or unsophisticated. Take the first movement from *Schumann: Symphonies Nos 1 & 3* [SACD, LSO Live LS00844), with Sir John Eliot Gardiner conducting the London Symphony Orchestra in the Barbican in 2019 – the opening bars heralded an exciting and forceful piece, with the orchestra going full-bore, but also interspersed with finely portrayed diminuendo flute playing. The system wasn't finding ultimate detail, but there was no real sense of loss because the overall presentation was so captivating. I've heard many Denon systems over the years, and to my mind striking a considered balance, even during intense moments, is one of their core values – and not an unwise decision at all.

> 'The opening bars heralded an exciting, forceful piece'

ROYAL APPROVAL

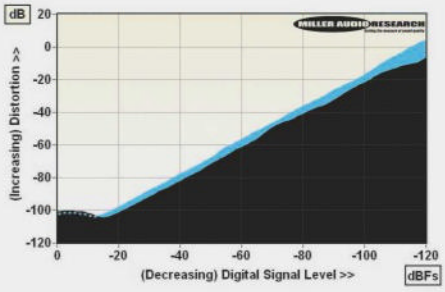
'1615 Gabrieli In Venice', performed by His Majesty's Sagbutts and Cornetts for The Choir of King's College Cambridge label [SACD & BD Audio, KGS0012], is a landmark Dolby Atmos recording often used for multichannel demos. But during testing I realised there was also a hybrid SACD included (I've only owned it eight years…), which

LAB REPORT

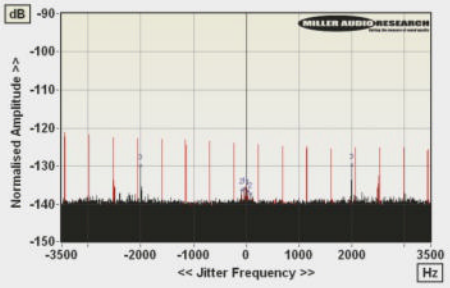
DENON DCD-1700NE

SACD has the edge over plain vanilla CD in this player, right down to its maximum 2.50V output and 110.6dB A-wtd S/N ratio which, in both cases, is some +0.5dB ahead of its silver stablemate. Distortion too, while already a low 0.00085%/1kHz with CD [see Graph 1] is squeezed further to 0.00017%/1kHz in SACD mode. Above 10kHz the situation reverses as the requantisation noise associated with SACD/DSD64 causes an uplift in THD+N with the golden disc – so 0.0007%/20kHz with CD becomes 0.04% with SACD, increasing to 0.07%/30kHz. Of course, CD is limited to a ~22kHz bandwidth, its response subject to the adaptive qualities of Denon's 'AL32 processing' where the digital filter shows less ringing with transient signals at the expense of an early treble roll-off of –6.5dB/20kHz. With non-transient/steady-state signals the digital filter delivers a flatter and more extended response that reaches out to –1.8dB/20kHz. SACD data is retained as DSD rather than downsampled to LPCM (as we have seen in many players) and so the response sails out to –0.5dB/20kHz, –1.2dB/40kHz, –2.5dB/60kHz, –6.0dB/80kHz and –13.6dB/100kHz.

The 1-bit format also offers improved low-level linearity from the ±0.2dB error at –100dBFs associated with CD to ±0.1dB with SACD, the latter drilling down as far as –130dBFs with a resolution of ±0.8dB. Jitter is at the 16-bit limit of measurement at 114psec with CD (rather intriguingly *increasing* to 118psec in 'Pure Direct' mode) and reduces to 56psec with SACD [see Graph 2, below]. Other performance parameters, including the fine 125dB/1kHz and 101dB/20kHz stereo separation, the 97ohm (single-ended) output impedance and 0.02dB channel balance are all features of the shared analogue output stage. **PM**



ABOVE: Distortion versus digital level (16-bit CD) over 120dB dynamic range (1kHz, black; 20kHz, blue)



ABOVE: High resolution jitter spectra (16-bit CD, red with residual pattern; 1-bit SACD, black with markers)

HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	2.36Vrms / 97ohm
A-wtd S/N ratio (CD / SACD)	110.1dB / 110.6dB
Distortion (1kHz, 0dBFs/–30dBFs)	0.00085% / 0.0035%
Distortion & Noise (20kHz, 0dBFs/–30dBFs)	0.00070% / 0.0016%
Freq. resp. (CD, 20Hz-20kHz / 100kHz)	+0.0 to –1.8dB/–13.6dB (SACD)
Digital jitter (CD / SACD)	114psec / 56psec
Resolution @ –100dB (CD / SACD)	±0.2dB / ±0.1dB
Power consumption	14W (1W standby)
Dimensions (WHD) / **Weight**	434x135x384mm / 9.8kg

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tel 01202 911 886 email ask@jordanacoustics.co.uk

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Model: Talus

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ABOVE: CD/SACD player [top] has optical/coaxial digital outs and analogue outs on RCAs. Amp [below] has MM/MC, a 'tape' in/out and two line ins, a power amp input, two optical, coax and USB digital inputs plus two sets of 4mm speaker binding posts

made for an interesting comparison between the surround version I know well and this two-channel mix. The contrast was less stark than you might presume as the DCD-1700NE revealed a lot of spatial info, evoking the chapel's acoustics remarkably well via my two Focal floorstanders. Once again, the resolution of small dynamic details and soundstage width were notable, with a finely textured solo voice rising above the choir with suitable majesty.

Throughout my listening I did struggle slightly with the 'law' of the volume control which seems to encompass the bulk of the amplifier's gain over the first third of its rotation. This might sound like a minor niggle, but it did detract from my enjoyment quota, especially with classical works that start off quietly and build to a crescendo. Both with my Focal Sopra N°2s and a pair of DALI's Rubicon 2 standmounts the dial was barely lifted off the ground. Turning the volume up to 12 o'clock would have been very exciting indeed...

Moving on, *The Bridge* [CD; A&M 00602438587070] shows Sting, 71 while recording, still capable of sounding a lot like himself forty or so years ago.

LEFT: The RC-1249 system remote governs both '1700 separates, providing access to CD/SACD disc playing functions, amp input selection, direct mode, volume, mute, *etc*

His singing style was highlighted on 'Loving You', full-bodied with backing vocals layered behind. I appreciated how the quirky synth sounds remained low-key in the background, as on more analytical systems this element can become a distraction. The DCD-1700NE and PMA-1700NE seem to know what to accentuate and what to let lie.

ACES HIGH

Although I was focused on the performance of these components as a single system, I did use the USB-B input on the PMA-1700NE in combination with an iFi Audio NEO Stream [*HFN* Mar '23], because even ardent SACD and CD buffs still might want to stream music from time to time. There was a smidge of low-extension emphasis on *Gary Clark Jr. – Live* [Warner 9362 49335 4; 96kHz/24-bit], but no matter – the ace blues guitar playing was not suppressed, making for a gripping performance that captured the live sensation and had the crunch and drive to keep you listening.

HI-FI NEWS VERDICT

The two-box DCD-1700NE and PMA-1700NE combo succeeds in its aim to please those remaining 'physical disc' enthusiasts, spreading hope to those of us who still appreciate the joy of CD and SACD media. Moreover, as a complete music *system* it offers an exciting, energetic but also suitably polished performance that will surely bring in as many listeners who are more tempted by 'virtual' music sources!

Sound Quality: 86%

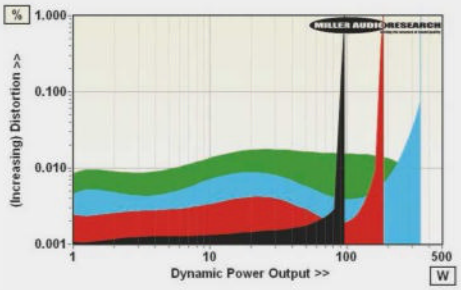
0 - - - - - - - - 100

LAB REPORT

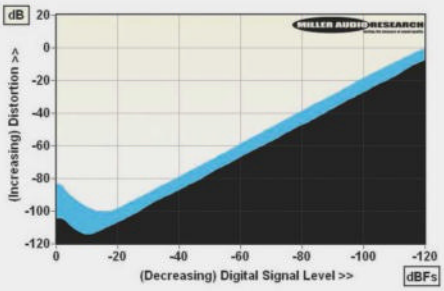
DENON PMA-1700NE

Although the DCD- and PMA-1700NE are both equipped with TI's PCM1795 DAC, the amplifier's implementation features an alternative 'hybrid' digital filter with asymmetric pre/post ringing and a slightly reduced 73dB stopband rejection. Via the tape recorder outputs, the A-wtd S/N is a couple of dB shy at 108dB but distortion – with 24-bit rather than 16-bit CD data – is significantly lower at 0.00015-0.0008% over the top 30dB of its dynamic range than that achieved by the DCD-1700NE [compare Graph 2 with that on p59]. Low-level linearity is good to ±0.1dB over a 100dB range, jitter is a little less 'tidy' at 120psec and 165psec (48kHz and 96kHz, respectively) while the line responses reach out to –0.5dB/20kHz, –3.7dB/45kHz and –12.8dB/90kHz with 48kHz, 96kHz and 192kHz files.

These responses will be superimposed onto the 'analogue' response of the main amplifier which is flat to within –0.4dB/1Hz and reaches up to –0.1dB/20kHz and –0.79dB/100kHz. The 0.028-0.037ohm (20Hz-20kHz) source impedance should maintain this response into all but the most violent of speaker loads just as the FET amplifier's robust 97W, 186W and 348W dynamic output into 8, 4 and 2ohm loads, respectively, indicates good driving ability. Into lower, 1ohm, loads the PMA-1700NE is protected beyond a 265W/16.3A output [see Graph 1]. Overall gain is a high +46.6dB while the A-wtd S/N ratio is a generous 91dB (re. 0dBW) and distortion consistently low at ~0.0025% from 1W-50W/8ohm through the midrange (up to 0.015%/20kHz), only increasing to 0.003%/1kHz at the rated 2x70W/8ohm. In practice the amplifier's true power output is closer to 2x92W/8ohm and 2x175W/4ohm. **PM**



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 16.3A



ABOVE: Distortion versus 24-bit digital signal level over a 120dB range (1kHz, black; 20kHz, blue)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	92W / 175W
Dynamic power (<1% THD, 8/4/2/1ohm)	97W / 186W / 348W / 265W
Output imp. (20Hz–20kHz, Pre/Amp)	640-680ohm / 0.028-0.037ohm
Freq. resp. (20Hz–20kHz/100kHz)	+0.0 to –0.1dB/–0.79dB
Digital jitter (48kHz / 96kHz)	120psec / 165psec
A-wtd S/N ratio (DAC/Amp)	108.4dB (0dBFs)/90.6dB (0dBW)
Distortion (DAC, 0dBFs/Amp, 10W)	0.0008-0.0083%/0.0026-0.015%
Power consumption (Idle/Rated o/p)	54W / 320W (1W standby)
Dimensions (WHD) / **Weight**	434x135x374mm / 17.6kg

Two-way standmount loudspeaker
Made by: Totem Acoustic, Montreal, Quebec, Canada
Supplied by: Redline Scotland Ltd, Essex, UK
Telephone: 01268 858222
Web: http://totemacoustic.com; www.red-line.co.uk
Price: £2495

Totem Acoustic Bison Monitor

While not exactly an apex bovine of the wide-open prairies, the diminutive 'monitor' of Totem's new Bison series can still stampede with the best of the musical herd

Review: **Mark Craven** Lab: **Paul Miller**

Canada's Totem Acoustic is fond of a pun or two, promising a 'prairie-like', wide-open soundstage from its newest Bison loudspeaker range. You can't help feel, however, that while the name might fit the lineup's Bison Tower and Bison Twin Tower floorstanders, it's a bit of a mismatch for the Bison Monitor. Priced £2495, and available in White Oak, Satin White and Black Ash colourways, this two-way standmount/bookshelf model hardly possesses a muscular, bovine build. On the contrary, it's practically petite.

Naturally, Totem Acoustic suggests the Bison Monitor provides the sort of performance 'rarely associated with such a small enclosure', and we really are talking about a compact design, just 171mm wide and similarly bijou at 243mm deep. It also weighs a modest 5kg, meaning that you can probably place it anywhere you choose (within reason) if you're not intending to use it with speaker stands. Regarding these, Totem Acoustic doesn't sell any for its monitor-form models, but plenty at 25in+ will do the trick.

> 'The stage manager flicked on a spotlight'

KITH AND KIN

Based in Montreal, Quebec, Totem Acoustic was founded in 1987 by Vince Bruzzese, who remains in place as owner, president and chief designer. What has changed in the intervening years is the breadth of the company catalogue; where once it had just a single speaker – the Model 1 – it now sells a variety of custom installation/architectural models (including in-wall subwoofers), plus active speakers and soundbars under its KIN sub-brand [see boxout, p63]. Then there are its conventional hi-fi loudspeakers, topped by the Element Metal V2 floorstander at £15,995, and stepping down through Wind, Tribe, Arro and Forest siblings.

The Bison range, which has debuted with three options but – we're told – will expand in the future, is described by Bruzzese as a 'bang-for-your-buck' mid-level option that replaces the company's outgoing Sky series. Specifically, the Bison Monitor usurps Totem Acoustic's Sky Monitor, and takes both its styling cues and general dimensions from that older model (as well as the original Model 1), although the volume of the cabinet here has been increased by some 43%.

PORT NUMBERS

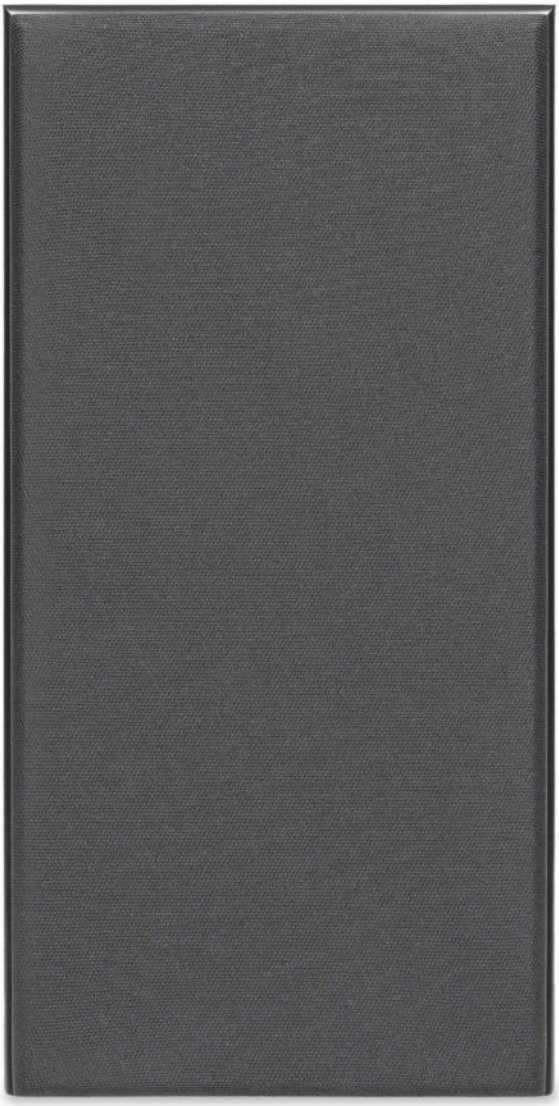
The speaker has a classic rather than dramatic look, and a reassuring build quality, with a lock-mitred monocoque cabinet that's horizontally braced.

Variable Density Fibreboard (VDF) is preferred to MDF, allowing the side walls to increase in rigidity from inside to out, while 'a borosilicate coating is deployed to manage energy dissipation in a desired, controlled manner'.

The Bison Monitor's driver pairing is governed by a 2.5kHz first order crossover, split to enable bi-amp/bi-wiring via the speakers' dual binding posts, which are inset into the rear. The new tweeter unit sits in a shallow waveguide and its large (33mm) laser-etched textile dome, backed by a neodymium magnet, has been engineered specifically for the Bison lineup by DKM.

Meanwhile, the 'long-throw' 130mm bass/mid, with 75mm voice coil and dust-cap, is a fourth-generation collaboration between Totem Acoustic and Morel, its cone hewn from mineral-loaded polypropylene and terminated with a natural rubber surround. The driver fixings are exposed, but both will be covered by Totem Acoustic's full-size magnetic grilles should you choose to use them.

A rear-facing bass reflex port contributes to the speaker's claimed low-frequency reach of 40Hz, while nominal impedance is rated at 8ohm and sensitivity at 87dB [see PM's Lab Report, p65]. Like the



RIGHT: The Bison Monitor's lock-mitred and cross-braced cabinet employs VDF (variable density fibreboard). White Oak, Black Ash [pictured] and Satin White finishes are offered with matching grilles that snap magnetically into place

Bison Monitor itself, the port is small at approximately 30mm in diameter, but it's a design that Vince Bruzzese explains is optimal for controlling vent speed, bass extension and flow stability. A small piece of rubber attached to the lower rim works to 'adjust phase slightly in the lower bass plateau'. There are no inserts provided with the speakers to short the reflex port.

PAIN FREE

With the Monitor name, and cabinet dimensions, some buyers might consider these speakers ideal for nearfield listening and/or desktop use. Totem's placement recommendations are certainly accommodating here, with rear-wall clearance from a tight 15cm and cabinets 1m to 2.5m apart. For a more laidback listening experience, I settled upon a 2m-wide layout with a very slight toe-in, and a 25cm distance to the rear wall, which didn't seem to bother these ported speakers at all. Indeed, positioning the Bison Monitors proved to be pain-free, requiring less of an exacting approach to placement than some other loudspeakers to achieve good results.

TOTEM'S TIMELINE

Totem Acoustic's founder Vince Bruzzese says the company was established in 1987 with a series of rules concerning its loudspeaker design, including what he describes as 'discreet cabinets, naturalistic off-axis performance, "timeless not trendy" aesthetics, and product longevity'. First out of the gate in 1989 was the compact two-way Model 1, which continued until 2017, followed soon after by 1990's isobaric bass-loaded Mani-2 standmount, which became the Mani-2 Signature, available until 2009. The five-way Shaman floorstander, launched in 1991, was another key design and one that would later inspire much of the company's multi-driver custom install models.

The lineup was further expanded in the 1990s and 2000s with more conventional floorstanders and standmounts, including 2007's Tribe models and the first generation (2009) of Totem Acoustic's range-topping Element series. In 2014 came the introduction of the affordable KIN brand 'to help support a newer and younger generation of music lovers'. Powered, BT-equipped speakers, including the KIN Play Monitor and KIN Play Tower, were added in 2018.

LEFT: New for the Bison series is this long-throw 130mm bass/mid driver, with huge 75mm voice coil, crossing over at 2.5kHz to a 33mm soft-dome tweeter with integral short horn waveguide

SNAP CHAT

I'd wondered if the Bison Monitor's ported cabinet might yield a more 'adventurous' low-end output than its physical dimensions and elegant appearance suggest, but this proved not to be the case. There's impressive depth to bass delivery, but enjoyment comes more from its snap and rhythm than wobble-the-windows extension. Meanwhile, the clarity and texture across the mid and treble makes for an insightful listen, as does its open soundstaging. Another description Totem Acoustic gives to its new speaker is 'luxury bookshelf', and such language goes well with a sound that's about the finer things in life.

For example, with Guns 'n' Roses acoustic ballad 'Patience' [*Lies*; Geffen GFLD 19287], the Bison Monitor extracted plenty of fine detail and imaging subtlety. Unusually for the band, this piece features three acoustic guitars and vocals – no bass or drums/percussion. Said to be a single-take recording, it has its occasional fluffed elements, be it singer Axl Rose croaking a few words or a buzzing guitar string, and the Bison Monitor uncovered these idiosyncrasies. Of note was the separation given to the instruments, the feeling of three players arranged around the room, not to mention high-fret steel-string notes that had both edge and sweetness. This clarity of performance is not only revealing, it plays a part in giving the music a sense of propulsion and rhythm. Percussion details are crisp and immediate, and rapid-fire playing is ready to be appreciated.

CRACKING ON

Another Guns 'n' Roses track, 'Locomotive (Complicity)' from *Use Your Illusion II* [Geffen GEFD 24420], moved along like its titular train, helped by clear interplay between the guitar parts and the forceful crack of the snare drum. And with the upbeat rhythms of Lynyrd Skynyrd's 'Little By Little' [*Street Survivors*; Geffen/UMG 0602517571662] the loudspeakers bounced along and punched hard, every note in the walking bassline distinct.

For a speaker that can almost disappear into a room, it seems only right that, when playing, the Bison Monitors are basically invisible. The spread of instruments present in Miles Davis' 'Miles Run The Voodoo Down' [*Bitches Brew*; Legacy 889-85474622] felt divorced of any physical

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LEFT: Pairs of bi-wire/bi-amp compatible 4mm cable binding posts connect to the 2.5kHz crossover. The small bass unit is reflex-loaded via an equally bijou rear-facing port

cabinets, with the twin drum kits either side of Davis' trumpet easy to picture, and additional players joining the throng with well-defined placement. This piece has a variety of textures, from dynamic blues guitar chords to low woodwind and higher-pitched brass, and Totem's Bison Monitors sounded *au fait* with all of them, steering clear of brittleness while adding a welcome hint of richness to the bass.

FLYING SOLOS

A fun aspect of this production are the various instrumental solos that appear across the soundstage, almost as if a jazz-club stage manager has flicked on a spotlight. This spread was apparent even when listening quite far off-axis horizontally, and the Bison Monitor didn't lose much of its tonal grip at the vertical either. There's little obvious sweet spot here.

Add this all together and you get an assured, full-range performance that welcomes lengthy listening sessions. Different productions are ably conveyed, so that Gladys Knight And The Pips' 'Midnight Train To Georgia' [*Imagination*; Music Club Deluxe MCDLX061] has a wonderfully rich, smooth quality, and sounds a world away from the icy, sterile riffs of Metallica's 'One' [*...And Justice For All*; 96kHz/24-bit], where again the pairing showed fine stereo imaging as it tracked the machine gun and helicopter effects that kick it off.

The ability of this speaker to unravel treble detail, to dive deep into what you're listening to, meant I was drawn to material that deserves it: jazz, classical, country, well-recorded rock. Given something more rhythm focused, such as Orbital's 1990s-throwback track 'The New Abnormal' [*Optical Delusion*; London Records LMS5521858], and the more basic textures of the synthesisers made for a less interesting listen. The speed of the speaker's woofer meant a lively performance though.

Creedence Clearwater Revival's 'Born On The Bayou' [*Bayou Country*; Fantasy FCD 8387-2], a floating, bassline-driven rock jam, did have me hankering for a speaker with a thicker, warmer and larger-scale output. Yet there were no such worries with violinist Anne-Sophie Mutter's *Across The Stars* album [DG 479 7553]. The Bison Monitor shone a light on her remarkable talent, be it the dexterity of the flighty 'Rey's Theme', or the long sorrowful notes of the 'Schindler's List' piece. It also leaned into the depth and dynamics of the 70-piece orchestra, delivering a soaring performance of clear, defined musicality.

HI-FI NEWS VERDICT

The look of Totem Acoustic's Bison Monitor is unlikely to garner much attention, but listen to it and you'll forget all about superficial style. Tight, quick bass handling, superb midrange definition and sparkling detail result in a sound that's always enjoyable and often eye-opening when weighed against the cabinet size and price tag. Consider it proof that good things really can come in small packages.

Sound Quality: 85%

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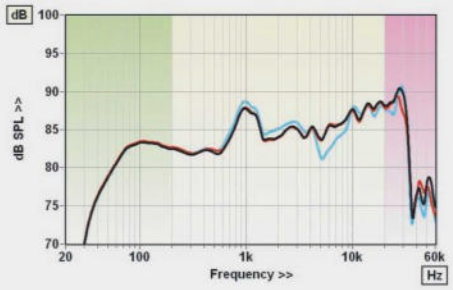
LAB REPORT

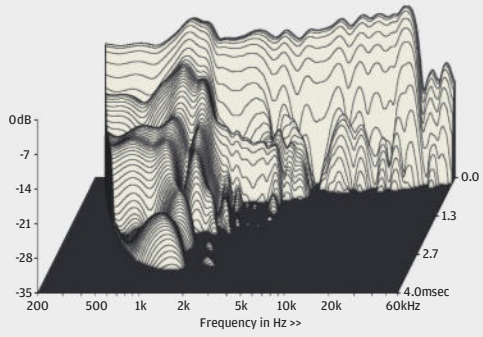
TOTEM ACOUSTIC BISON MONITOR

While not quite the 8ohm specified by Totem, the Bison's minimum impedance modulus is still a very comfortable 5.4ohm/228Hz (warranting a 6ohm nominal rating) which, combined with equally 'easy' –39.7°/96.5Hz and +43.3°/1.09kHz phase angles, results in a minimum EPDR of 2.8ohm/52Hz. However, glitches in the impedance/phase curves at 420Hz, 770Hz and 920Hz presage a boost in the Bison's forward response of ~3dB at 800Hz-1.3kHz [see Graph 1] which, in turn, is reflected in resonance modes seen on the CSD waterfall plot [see Graph 2]. The latter are likely linked to the huge 76mm dustcap, or a cone/surround mistermination within the 133mm bass unit, but the overall response is otherwise very even, if slightly upturned towards the presence/treble. The grille produces a ~3dB drop in output at ~5kHz [blue trace, Graph 1]. Otherwise, pair matching is an exceptionally fine 0.4dB with response errors amounting to ±3.4dB and ±3.3dB, respectively, not including the 28kHz peak from the large (33mm) soft treble dome which pushes the Bison's HF response out to a respectable 34kHz (–6dB re. 10kHz).

Totem rates the Bison's sensitivity at 87dB but the 'bump' in response rather conveniently boosts the 1kHz figure to 87.8dB! However, figures of 84.8dB (500Hz-8kHz) and the IEC (perceptually)-wtd 83.0dB give a more realistic idea of perceived 'loudness'. Nevertheless, for a box of this size, impedance and sensitivity, distortion remains low at <0.7% (100Hz-10kHz re. 90dB SPL) while bass extension, aided by the 60Hz-600Hz (–6dB) woofer bandwidth and low 35Hz port tuning, reaches down to a respectable 41Hz (–6dB re. 200Hz) or 67Hz (–6dB re. 1kHz). **PM**



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w. grille, blue



ABOVE: The main bass driver modes at ~1kHz are seen on the response [Graph 1] but presence/treble is clean

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	87.8dB / 84.8dB / 83.0dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	5.40ohm @ 228Hz 25.3ohm @ 2.59kHz
Impedance phase: minimum & maximum (20Hz–20kHz)	–39.7° @ 96.5Hz +43.3° @ 1.09kHz
Pair matching/Resp. error (200Hz–20kHz)	0.4dB / ±3.4dB/±3.3dB
LF/HF extension (–6dB ref 200Hz/10kHz)	41Hz / 34.7kHz/34.2kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.65% / 0.15% / 0.55%
Dimensions (HWD) / **Weight** (each)	850x171x243mm / 5kg

Moving-coil cartridge
Made by: Audio-Technica Corporation, Tokyo, Japan
Supplied by: Audio-Technica Ltd (UK), Leeds, UK
Telephone: 0113 277 1441
Web: www.audio-technica.com
Price: £2749

AUDIO FILE

Audio-Technica AT-ART20

Sixty years since Hideo Matsushita founded Audio-Technica in a Tokyo suburb the brand continues its love affair with vinyl with the launch of a new ART series moving-coil
Review: **Adam Smith** Lab: **Paul Miller**

Celebrations have come thick and fast over the last couple of years, and to SME's 60th [*HFN* Jul '22], Clearaudio's 40th [*HFN* Nov '22] and Nagra's 70th [*HFN* Aug '22] we can add Audio-Technica's 'Diamond'. Naturally, the company has not missed the opportunity to mark the occasion by releasing a celebratory cartridge or two. There's the new £8900 flagship AT-MC2022 [see p22] and the slightly more affordable AT-ART20 at £2749 that we have here.

This cartridge takes some cues from the £1350 AT-ART9XI, albeit with improvements in materials, while leveraging other design features from the previous top-end AT-ART1000 moving-coil. Incidentally, the 'ART' designation in the model number stands for 'Audio Reference Transducer' and was a moniker first introduced back in the 1980s on the company's AT-ART1 moving-coil cartridge.

MODERN ART

The appellation has been used ever since to designate Audio-Technica's premium designs and, if you happen to study a picture of that classic AT-ART1, you'll find that the AT-ART20, and fellow 'ARTs', share a great deal of its basic design ethos. Obviously, the materials have become more high-tech and the cartridge styling somewhat more *Battlestar Galactica*, but the heritage is clear to see.

LEFT: A-T's latest ART cartridge combines an aluminium and titanium housing plus elastomer base, all by way of 'resonance control'. It is also undeniably attractive!

The pick-up utilises Audio-Technica's tried and trusted V-Coil configuration, for which the company promises 'exceptional channel separation and imaging along with wide dynamic contrasts'. Surrounding these coils, the neodymium magnet and Permendur magnetic alloy yoke are taken from the AT-ART9XI. However, for the AT-ART20, Audio-Technica has thickened the yoke by 0.6mm, which may not sound a great deal, but is still sufficient to increase magnetic flux density in the area. The result is not only a claimed improvement in sound quality, but also an increase in output voltage from the 0.5mV of the AT-ART9XI to 0.55mV here. For a moving-coil cartridge, this is a decent jump [see PM's Lab Report, p69].

'A cartridge that gets to the heart of your grooves'

LEFT: Eschewing a traditionally 'square' body design, the AT-ART20's thoroughly modern and very elegant aesthetic still makes for easy cartridge alignment and cueing

The base of the cartridge is made from aluminium, but the damped underside is fashioned from an elastomer material and the body from titanium. For this design, A-T has called on the services of the eyeglass industry of Sabae City in the Fukui Prefecture of Honshu, utilising traditional skills in cutting and polishing to considerably reduce the thickness of the titanium material. The result is a very light but rigid structure, all polished to a mirror-like shine. Frankly, if it wasn't for the terror of snagging the stylus, I'd have been tempted to wear gloves during the installation process to avoid leaving unsightly fingerprints!

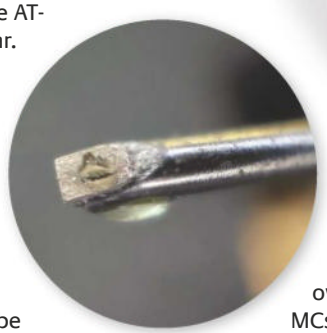
TRICKLE TECH

At the business end, Audio-Technica's new cartridge features a nude 'Special Line Contact' stylus mounted on the end of a 0.28mm-diameter solid boron cantilever using a titanium reinforcing plate [see inset micrograph, p67] – a technology trickled down from the AT-ART1000 model. This cantilever increases in diameter in gradual steps towards the pivot point, improving rigidity and helping to suppress unwanted resonances.

Finally, the gold-plating on the AT-ART20's output pins is claimed to be 30x thicker than that normally used by Audio-Technica, which should stand it in good stead if you are in the habit of 'refreshing' the tag connections on a regular basis. Resistance is not an issue here, but the AT-ART20's generator impedance is otherwise a moderate 12ohm, with a suggested minimum MC loading of 100ohm.

The cartridge is presented in a neat white box and supplied with gold-plated mounting hardware and an Audio-Technica-

branded stylus brush and screwdriver. Fitting and alignment proved relatively painless, not least due to the threaded holes in the top of the cartridge body. A good range of screw lengths are supplied in the hardware bag and these ought to cover installation into even the thickest of headshells. The AT-ART20 is also supplied with a sturdy stylus guard that grips the cartridge well.



ABOVE: The AT-ART20's titanium body offers a limited headshell contact area but the threaded lugs still ensure a very tight fit

LEFT: Micrograph reveals the 'line contact' stylus cemented (behind) to a 0.28mm-diameter boron cantilever supplemented by a rectangular 'reinforcement plate' cut from titanium

NOTHING MISSING

Audio-Technica specifies the optimal tracking weight as 1.8g with a span of 1.6-2.0g, but I found – with the AT-ART20 mounted to an SME V tonearm on a Michell Gyro SE – that either increasing or decreasing from the recommended value made little subjective difference. In fact, from the first bars of music, the AT-ART20 made its intentions clear. This is a cartridge that gets to the heart of your grooves and unearths incredible levels of detail. Aided by superb tracking, it seemingly misses absolutely nothing.

This sense of clarity and insight carries through to the midband; I've not often heard a cartridge in this price range be so precise in creating a wonderfully etched and ordered soundstage. If you're the sort of listener who likes to detect the gauge and make of the guitarist's strings and work out exactly how tall the second violinist is, then perhaps you'll be minded to place your AT-ART20 order right now.

One caveat here, however, is that the measured rise in output above 10kHz [see PM's Lab Report, p69] is fairly obvious. The AT-ART20 does have a distinctly bright tonal balance. For those listeners, like me, who have been long-term owners of various AT-OC9 MCs [*HFN* Jul '09, Jan '11 and Aug '19], which exhibit a similar sonic character, this will not be a problem. In fact, I felt the AT-ART20 simply builds upon the basic flavour of those models. On the other hand, if you're used to a smooth and mellifluous MM pick-up, like Nagaoka's MP-500 [*HFN* Jan '23], the AT-ART20 may come as a bit of a shock...

One advantage that it has, however, is a good response to variations in loading. Dropping the MC input impedance on my Yamaha C-5000 preamp [*HFN* Aug '20] down to 30ohm made the sound brighter, uncomfortably so on unforgiving material. An increase to 300ohm smoothed things out somewhat, but I also found that this tended to add a slight recess to the upper midband, so I stuck with the recommended 100ohm loading for the duration of my time with this sophisticated MC.

SET TO STUN

Configured like this, the spatiality and depth to the AT-ART20's soundstage was approaching masterful. The soulful, articulate vocals on 'Celestial Echo' from Malia & Boris Blank's *Convergence* release [Universal 374 593-2] appeared set precisely between my loudspeakers and slightly in front of them. The track's ethereal, percussive effects darted fluidly from speaker to speaker, while the whole performance was founded on a sinuous and firm bassline. This 2014 album is an often-played favourite of mine and although I won't make any fanciful claims of hearing it 'like I've never heard before', the AT-ART20 certainly pulled out features of the instrumentation that might normally languish towards the back of the mix.

60 YEARS IN VINYL

Audio-Technica was founded by Hideo Matsushita in an apartment in Shinjuku in April 1962. He had gained an appreciation of vinyl from listening sessions while working at the Bridgestone Museum of Art in Tokyo, and took this as his inspiration to develop cartridges. Matsushita's first pick-ups were the AT-1 and AT-3, and the success of the pair meant a move to a dedicated factory in 1965, where Audio-Technica still resides. Innovations around this time included the development of an elliptical diamond stylus in 1964, and the company's first tonearm, the AT-1001, in 1965. The first 'VM' dual-magnet design was the AT-35X in 1967, the company also establishing OEM production for other brands.

The 1970s saw A-T sidestep into headphones and microphones plus a further expansion of its tonearms and cartridges. The AT1000 MC was released in 1981, followed by the iconic Sound Burger portable turntable in 1982 [see p103]. Launched in the late '80s were the AT33 and AT-OC9 models, alongside a surprise manufacturing offshoot dedicated to sushi-making robots! Such diversification in and out of the audio business saw A-T ride out the 'vinyl decline', letting it – along with Ortofon and a precious few others – take advantage of the much-vaunted vinyl revival in the new century. Hideo Matsushita passed away in 2013. He had been succeeded by his son, Kazuo Matsushita, as President of A-T in 1993.

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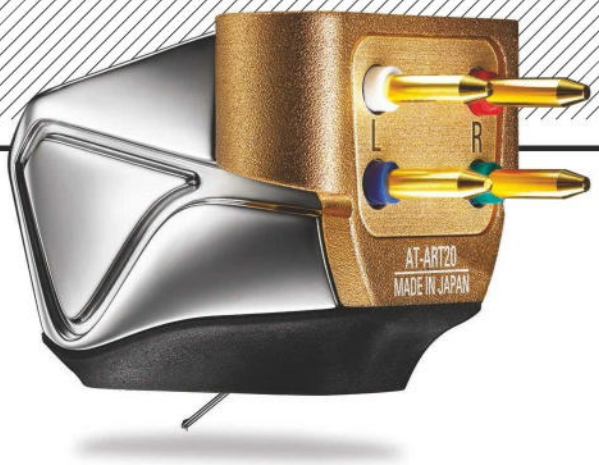

LEFT: Rear view of the AT-ART20 reveals its heavily gold-plated cartridge pins – all well spaced and clearly marked

As to guessing the make of guitarists' strings, someone with more knowledge of such things than me might well be able to do this using the AT-ART20, such is the feeling of detail. The interplay between the acoustic guitar and harmonica on 'War Song Soldier', from Gerry Cinnamon's *The Bonny* LP [Little Runaway Records GCINH005DLX], was delightful, and both instruments could easily have been in my room. The leading edges of the plucked guitar strings in particular had real form to them – there was no doubt this was a very real instrument and not a modern electronic facsimile.

PLUMBING THE DEPTHS

The sound here is not all top-end light and touch, though: the fulsome levels of detail exhibited by the AT-ART20 can be found right down to its low end. Occasionally, when a transducer excels in the upper reaches of the frequency range, bass can play something of a second fiddle (if you'll pardon the pun), yet Audio-Technica's AT-ART20 avoids this by offering a deep, effortless and detailed bottom end that rounds out the performance.

I'd already experienced tangible bass impact with the Malia & Boris Blank track, and it kept reappearing with all sorts of other material. The crashing timpani at the climax of Ravel's *Boléro*, played by the Netherlands Philharmonic Orchestra conducted by Carlo Rizzi [Tacet L207], thundered through my room, as did the rack-toms rolling from left to right across the soundstage on the intro to blues/folk musician Steve Earle's 'Copperhead Road', from the album of the same name [MCA Records MCF 3426].

Often, this piece feels like a strictly enforced sonic buffet for a cartridge, where it's only allowed one choice and can pick impact or detail, but not both. It's a rare transducer that manages to grab the two together, but the AT-ART20 clearly joined the queue twice, loaded its plate and refused to relinquish either.

This 'best-of-both-worlds' skill makes the AT-ART20 an impressive all-rounder, however I kept coming back to the wonderful levels of atmosphere and precise performer location it exhibited. Jessie Ware was definitely singing from the rear of the soundstage when performing 'Remember Where You Are' on her *What's Your Pleasure?* LP [Virgin Records V3245], while the 'backing' vocalists were spread out in front of her. Yet the hint of echo on her voice came through exquisitely, lifting the track to joyous heights.

ALTOGETHER NOW

At all times the AT-ART20 never lost sight of the overall musical message it had been asked to deliver. It's all very well picking up every last nuance of a performance, but if you can't bring it all together as a cohesive and flowing whole, then the effort is wasted. The AT-ART20 gets the balance right, and shows that Audio-Technica, with its 60 years of cartridge experience, has no desire to rest on its laurels.

HI-FI NEWS VERDICT

The AT-ART20 is a fitting addition to Audio Technica's birthday celebrations. Soft, warm and romantic it is not, but the level of detail it pulls from everyday record grooves is, at times, truly astonishing. It is easy to configure, tracks superbly and turns in a cohesive and thoroughly enjoyable musical performance. If its tonal balance is to your liking, then, like me, you could find yourself smitten.

Sound Quality: 86%

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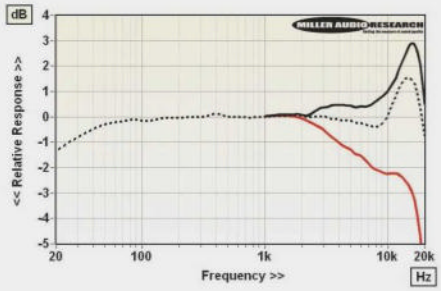
LAB REPORT

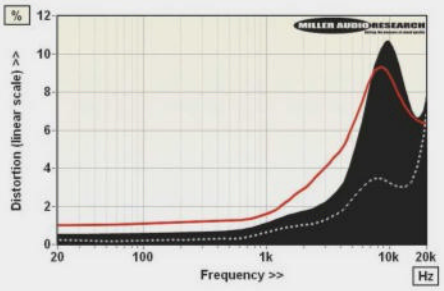
AUDIO-TECHNICA AT-ART20

Although the AT-ART20's moving-coil 'circuit' is based on that debuted in the AT-ART9XI, Audio-Technica has beefed up the flux density of the magnet (rather than increase the coil-turns and moving mass of the mech) for a claimed 15% uplift in output. The latter is rated at 0.5mV and the former 0.55mV although, in practice, the AT-ART20's output is slightly more generous still at 0.68mV (all re. 1kHz/5cm/sec) with a very acceptable 0.35dB channel balance. Channel separation did not quite meet the rated 30dB through the midrange, but the response is both flat and extended – within the typical limits of MC design – at ±1.5dB from 20Hz-20kHz [see stereo trace, Graph 1]. Isolating the lateral (L+R) and vertical (L-R) response trends indicates some lack of symmetry in the generator, however, favouring centrally-focused images over presence/treble detail at the extremes of the soundstage [black vs. red traces, Graph 1]. On the other hand, lateral/vertical distortion vs. frequency [see Graph 2] is both low and fairly symmetrical while the stereo THD [dashed trace] holds to <7% from 20Hz-20kHz (–8dB re. 5cm/sec).

Tracking is truly superb at the recommended 1.8g test downforce (a broad 1.6-2.0g range is specified) where the AT-ART20 sails through the top 80µm groove pitch and navigates the maximum +18dB groove (re. 315Hz/5cm/sec) at just <0.7% THD. While this is unusually secure for a moving-coil, the AT-ART20 is far removed from the low-compliance/high-mass designs that still frequent some pockets of the high-end. Instead, this MC has an almost MM-like suspension with a relatively soft 26cu compliance. Low/medium mass arms are recommended while, with a parallel tube, VTA is bang on target at 21°. **PM**



ABOVE: Freq. resp. curves (–8dB re. 5cm/sec) lateral (L+R, black) vs. vertical (L–R, red) vs. stereo (dashed)



ABOVE: Lateral (L+R, black), vertical (L–R, red), stereo (dashed) tracing and generator distortion (2nd-4th harms) vs. freq. from 20Hz-20kHz (–8dB re. 5cm/sec)

HI-FI NEWS SPECIFICATIONS

Generator type/weight	Moving-Coil / 9.0g
Recommended tracking force	16-20mN (18mN)
Sensitivity/balance (re. 5cm/sec)	675µV / 0.35dB
Compliance (vertical/lateral)	26cu / 23cu
Vertical tracking angle	21 degrees
L/R Tracking ability	>80µm / >80µm
L/R Distortion (–8dB, 20Hz-20kHz)	1.2-7.9% / 0.3-7.0%
L/R Frequency resp. (20Hz-20kHz)	+0.2 to –3.2dB / –1.3 to +1.5dB
Stereo separation (1kHz / 20kHz)	26dB / 20dB

USB DAC/preamplifier
Made by: SPL electronics GmbH, Niederkruechten, Germany
Supplied by: SCV Electronics Ltd, Herts
Telephone: 03301 222500
Web: www.spl.audio/en; www.scvdistribution.co.uk
Price: £2499

SPL Diamond

From Germany's SPL (Sound Performance Laboratory) comes this multicolour USB DAC designed for both 'legacy' and computer connection. There's a volume control too...
Review: **Andrew Everard** Lab: **Paul Miller**

Given that most of today's digital components seem to be multifunctional – streamer DACs, DAC/headphone amps and the like – it's unusual to find a product as simple in its operation as its design. Yet that describes the latest arrival from German manufacturer SPL, the £2499 Diamond DAC, available in silver, black or red like all the company's products. A back-to-basics DAC? Well, almost...

You see, the Diamond may be both slender and simple in its core functionality, but it has a trick up its sleeve, revealed by the presence of a volume control alongside the input selector and simple-but-effective red-on-black dot-matrix display. Of course, that trick is the ability to be connected straight into a power amplifier, such as the company's own Performer S800 or s1200 [*HFN* Sep '22] models, or a pair of Performer m1000 monoblocks, thanks to the option of fixed or variable analogue output. This would enable it to sit at the heart of a simple and gloriously minimalist digital-based audio system.

MEET THE NEW BOSS

Part of SPL's 'Professional Fidelity' series, in which the company's studio heritage crosses over to the domestic hi-fi arena, the Diamond sits below the Director Mk2 and Elector models [*HFN* Sep '22]. These are certainly DAC/preamps, complete with both digital and analogue inputs (and VU meters for good measure), while the Phonitor units [*HFN* Jul '21] combine digital-to-analogue conversion and headphone amplification.

The Diamond has been designed by SPL's Bastian Neu, who is also at the heart of the biggest change in the company's four-decade-plus history. Having joined in 2012, and worked on SPL's studio-focused 'Mastering Universe' devices and its Professional Fidelity hi-fi series, he's now taken over as MD from founder Wolfgang Neumann, who is retiring from his position but will continue as a developer.

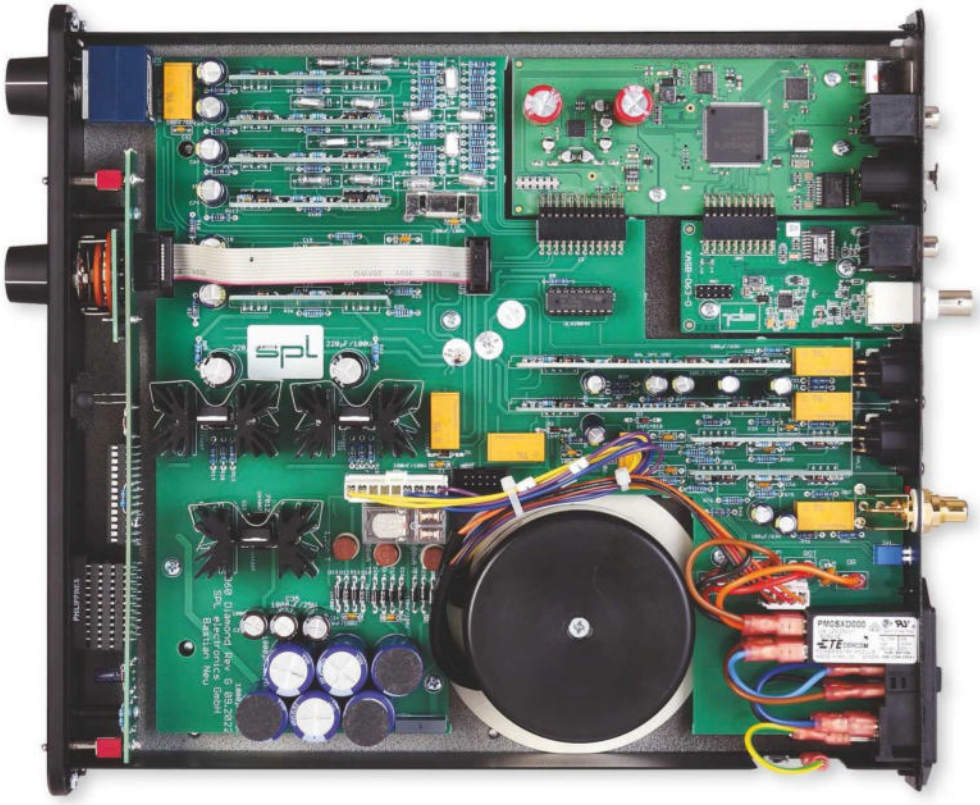
SHOW ME THE HONEY

In common with other SPL products, the Diamond DAC is a 'just over half-width' unit at 278mm wide, stands a mere 57mm tall, and shares the solidity of build found throughout the company's range. The anodised alloy front panel is thick and well-finished, and the controls, such as they are, operate with a feeling of precision. That's especially true of the volume control which, like the input selector, is milled from a solid block of aluminium. It fronts an Alps RK27 'Big Blue' potentiometer which, SPL says, 'gives a pleasant "spoon in the honey" rotary feel'. Very sensuous, but on a more prosaic level both the black and silver versions of the DAC have matching finishes on these controls, while the red looks purposeful with its black highlights.

> 'The deep bass both hits hard and low, and drives fast'

Switchover from fixed- to variable-level is via a pair of DIP switches on the rear [see p73] where there are both unbalanced RCA and balanced XLR outputs. There's a separate switch for each, so you could, for example, have the balanced out running through the volume control to feed an external power amp, while the RCAs feed a headphone amplifier. It's a neat solution, and indicative of the way SPL delivers the flexibility often required in the pro-audio arena.

Also redolent of its studio heritage is the presence of a word clock input on the



RIGHT: Linear PSU [bottom] supplies single-ended, vertically edge-mounted [top left] and balanced output 'Sopra' op-amps [centre right]. Digital PCB [top right] includes a Xilinx Spartan 6 processor and AKM AK4490EN Velvet Sound DAC

ABOVE: Available with red, silver and black fascia plates, the Diamond's display indicates the digital source and sample rate (U768 = USB at 768kHz) in addition to clock and error modes

rear and selector on the front. Switch this to 'source' and the Diamond syncs to the clock in the AES/optical/coaxial source. Choose 'word' and the DAC can be slaved to an external clock generator.

Beyond that, you only need to select the digital input, the Diamond accommodating up to six sources: two coaxial and two optical, AES/EBU, and USB-B. Of course, these days the last of those isn't just for hooking up your PC or Mac, as an increasing number of music servers and network audio transports offer a USB output, not least because this opens up formats beyond the 192kHz/24-bit limit on S/PDIF and AES/EBU connections. Via USB, the Diamond DAC can handle up to 768kHz/32-bit PCM, and DSD at up to DSD256/11.2MHz, with the unit automatically detecting the incoming signal and configuring itself accordingly.

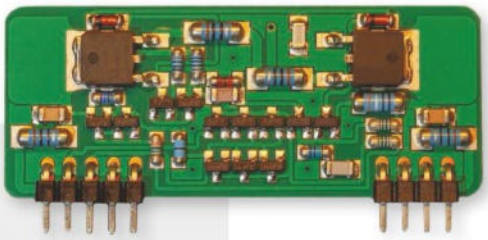
The display shows the signal type being received and the type of connection being used, after briefly indicating the source in use as USB, COA1, COA1, OPT1, OPT2 and AES. After two seconds this changes to an identifying letter – U, C, *etc* – and an indication of the sampling rate, so 'C192', for example, is 192kHz via coaxial. When receiving DSD via USB, the display simply indicates DSD1 to DSD4. And that's it – no faffing about with setting upsampling or fiddling with digital filters, for which small mercy I offer great thanks.

The Diamond DAC just works, converting digital to analogue using technology based on AKM's top-end AK4490 'Velvet Sound' converter chipset. SPL also includes its DLP120 (dual low-pass) filter network after the conversion system, with one roll-off frequency and rate for LPCM and another for DSD, the latter otherwise including higher levels of ultrasonic noise. All this is implemented using the company's 'high voltage' VOLTAiR op-amp modules, a proprietary technology used throughout SPL's Professional Fidelity series [see PM's boxout, below].

DIAMOND SPARKLE

I made full use of the input and output flexibility of the Diamond DAC, feeding it from my network player using one of its coax inputs, from a computer running Roon via USB, and also using the USB input to connect it to a network transport. I also ran the fixed output into an integrated amp and variable out into a Naim NAP 250 DR power amp [*HFN* Dec '15]. And the first takeaway is that, whatever input, file format or output used, this DAC is entirely consistent in its operation and sound. Yes, one might wish for a remote control just to adjust the volume – as SPL offers on some other models – but beyond that the Diamond lives up to its name with a sparkling performance, allied to a simplicity of operation enabled by its minimalist design.

The beauty of this DAC is the directness of musical communication it brings, sounding super-clean and precise without ever appearing sterile or anonymous. Instead, it combines a really deep dive into both recording and performances with all the heart and soul required to ensure the listener engages with what's being played. With The Cardigans' *First Band On The Moon* [Stockholm Records 533 117-2], that means a delicious view of Nina Persson's vocals, and a real appreciation of the skill in both the arrangements and the musicianship, with even the over-familiar 'Lovefool' sounding fresh and engaging.



CALLING ELVIS

Furthermore, SPL's DAC actually seems to relish getting its digital teeth into the most diverse of recordings, ensuring the likes of the lavish four-disc 'Super Version' of *The Songs Of Bacharach & Costello* [UMe; 96kHz/24-bit download] are a real delight. This comprehensive survey is impeccably recorded, and the music

A HIGHER LEVEL

We are accustomed to valve pre and integrated amplifiers running at significantly higher voltages than their transistor counterparts [see p52] but the potential offered by this increased headroom and more 'contained' operating area are not exclusive to tubes. For over a decade [*HFN* Sep '13 to *HFN* Oct '20], T+A has engineered its 'HV' series to include a 'High Voltage' preamp topology where specially selected J-FETs run at uncommonly high, up to 100V, PSU voltages. With only a very small proportion of this 'swing' used in practice, the FETs can be operated in Class A over a limited but highly linear portion of their range. The result is distortion that's largely unchanging with either output or frequency without employing anything more than the absolute minimum of corrective feedback.

SPL's proprietary VOLTAiR line/gain stages, realised in its single-ended and balanced Supra op-amps [see inset picture], adhere to similar principles, albeit in a more compact 120V (±60V) form-factor. Based around complementary MJD340/MJD350 transistors from STMicroelectronics, SPL's Supra modules bestow very high voltage headroom on its product's buffer/line stages. This is utilised in full with the maximum 45V output of its Phonitor xe amp [*HFN* Jul '21 and see p112] but is sensibly restricted to a 4.2V (balanced) feed for both the Diamond's 'fixed' and 'variable' output modes [see Lab Report, p73]. PM

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ABOVE: USB-B (to 768kHz and DSD256) and AES digital inputs are joined by pairs of optical and coaxial digital inputs (to 192kHz) and fixed/variable balanced/single-ended preamp outputs on XLR/RCAs. An external word clock input is included on BNC

reliably wonderful, from Costello's plaintive rendition of 'God Give Me Strength', with its muted trumpet and lush strings backing a superb close-up vocal, all the way through to the near-demo feel of Bacharach singing 'Lie Back And Think Of England'. The latter is a consistently smile-raising little throwaway, but still with a beautifully weighted piano. Costello's live version of 'I Just Don't Know What To Do With Myself' sounds suitably '1970s', but is still impassioned, while Cassandra Wilson's take on 'Painted From Memory' benefits hugely from the SPL Diamond's weighty but crystal-clear presentation.

Not that you need to rely on hushed vocals and fluid strings to hear this DAC at its best, for it's 'at its best' with just about everything you choose to play, including the fuzzed-out guitars of the title track from Lenny Kravitz's *Are You Gonna Go My Way* [Virgin 0777 7 86984 2 5], underpinned by a slamming rhythm section. Then again, the stunning old-fashioned band backing Willie Nelson on his recent *I Don't Know A Thing About Love* tribute to the songs of Harlan Howard [Sony/Legacy Recordings 19658800362] is delivered with wonderful warmth and ambience.

BREATHING SPACE

The old boy's voice still sounds great now he's back in his country groove after some recent opinion-dividing excursions into the 'Great American Songbook' territory. Not bad for a singer just weeks before his 90th birthday when the album was released, and the Diamond conveys all the character of the vocal.

What's more, SPL's Diamond DAC is excellent when it comes to soundstaging and ambience; it brings out the slightly distant sound of Adrian Butterfield and Silas Wolsston's new recording of Bach sonatas for violin and harpsichord [Somm CD0664-2], affording the music space to breathe in the church acoustic while still giving an entirely natural-sounding tonality to both instruments. Nor will this DAC place limitations on the music you play through it, as it doesn't sound noticeably 'better' with one genre over another. It's just at home pounding out the beat and lush arrangement of Orbital's 'Ringa Ringa' [*Optical Delusion*; Orbital Recordings 96kHz/24-bit download], as it is with the Bach sonatas. Here the deep bass both hits hard and low, and drives fast, while the ethereal rendition of the old nursery rhyme sounds suitably unearthly, before the album slams into the unstoppable beat of 'Day One', again with soaring female voices.

RICH RHYTHMS

True to its studio heritage, SPL's Diamond opens a window on any recording, be that thumping electronica or the richness of the LSO/Gianandrea Noseda 'DSD EP' of Prokofiev's Symphony No 1 [LSO Live LSO0363D; DSD256], in which the scale of the orchestra is as impressive as the way the DAC reveals the rhythms and tonal shades of the performance.

Ultimately, provided the rest of your set-up can reveal all the fine things it does – its clean sound and transparency – this DAC should never disappoint, whatever kind of music you choose to throw at it.

HI-FI NEWS VERDICT

It might be the most basic digital device in SPL's 'Professional Fidelity' range of consumer products, but the Diamond DAC is both superb-sounding and something of a high-end bargain. By focusing on essential flexibility only – no fiddly filters! – the company has come up with a design that's both easy to use and capable of excellent performance across a wide sweep of musical genres.

Sound Quality: 88%

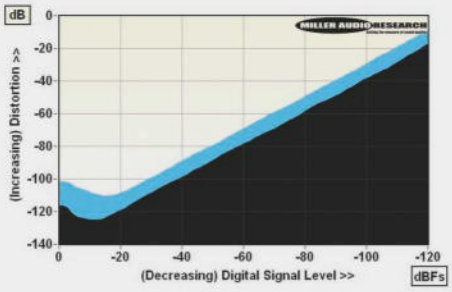
0 - - - - - - - - 100

LAB REPORT

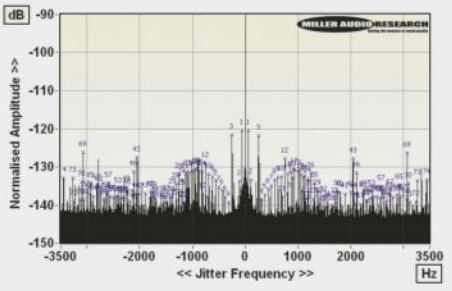
SPL DIAMOND

The Diamond is currently SPL's most accessible DAC solution, sitting beneath the Director Mk2 and Phonitor xe [*HFN* Jul '21], the latter employing a (very similar) AKM AK4490-based digital solution, with the same AES/USB and S/PDIF inputs, but combined with both single-ended and balanced analogue *inputs* to service the preamp output. Otherwise the performance of the new Diamond is as robust as we've come to expect from this pro-heritage brand – maximum output is a healthy 4.16V (fixed or variable) from a modest 36ohm source impedance (increasing to 40ohm at 20Hz) while the A-wtd S/N ratio is a wide 113dB, via both S/PDIF and USB-B inputs. The lowest distortion – a minuscule 0.00004-0.0007% (re. 20Hz-20kHz) – is achieved at circa –10dBFs [Graph 1, below, and note the extended –140dB scale] while some (very typical) analogue 'stress' sees this rise to a merely very low 0.0004-0.002% at peak output.

While the AKM DAC offers a choice of digital filters most brands using this chip opt for just one of the five available algorithms in their products, in SPL's case the 'fast roll-off/minimum phase' type which trades any acausal pre-ringing for extended post-ringing. Stopband rejection is a moderate 69dB while the high frequency roll-off increases from –0.7dB/20kHz with CD/48kHz media to –3.7dB/45kHz and –11.1dB/90kHz with 96kHz and 192kHz files, respectively. We've seen moderate levels of correlated jitter from other SPL products but this is reduced here to ~100psec and comprises an extended 'spray' of sidebands originating at ±64Hz [see Graph 2, below] which, I assume, is linked to a clock division or other polling process within the Diamond. The remainder of its 'analogue' performance, including >100dB stereo separation, is solid. **PM**



ABOVE: Distortion versus 48kHz/24-bit digital level over 120dB dynamic range (1kHz, black; 20kHz, blue)



ABOVE: High resolution 48kHz/24-bit jitter spectrum with low-level sidebands identified with markers

HI-FI NEWS SPECIFICATIONS

Maximum output / Impedance	4.16Vrms / 36-40ohm (bal.)
A-wtd S/N ratio	113.2dB
Distortion (1kHz, 0dBFs/–30dBFs)	0.00035% / 0.00013%
Distortion & Noise (20kHz, 0dBFs/–30dBFs)	0.0018% / 0.00033%
Freq. resp. (20Hz-20kHz/40kHz/75kHz)	+0.0 to –0.7dB/–3.7dB/–11.1dB
Digital jitter (48kHz / 96kHz / 192kHz)	110psec / 90psec / 80psec
Resolution (re. –100dBFs / –110dBFs)	±0.1dB / ±0.2dB
Power consumption	17W (1W standby)
Dimensions (WHD) / **Weight**	278x57x300mm / 5.4kg

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B&W 803 D4

This downsized, but perfectly-proportioned, facsimile of B&W's 801 D4 flagship is smaller in all but sound...
Review: **Jamie Biesemans** Lab: **Paul Miller**

It's all good and well lusting after a flagship like the B&W 801 D4 [*HFN* Nov '21], but not everyone has the means or opportunity. Cue the 803 D4, which is a modestly downsized version costing (nearly) half the price. Intriguingly, it also utilises the same technology and similarly designed drivers as the 801 D4, including the trademark turbine head.

Of course, suggesting the 803 D4 is in any way a miniature speaker is rather ridiculous. These are still hefty 62kg, 1.16m-tall enclosures, proudly sitting in the middle of the new 800 D4 range. The collective sigh of relief by dealers and reviewers alike when it was confirmed the D4s would retain the retractable wheels of the previous generations could be heard across the globe. If only its major competitors took note...

As for industrial design, not too much has changed, so the 800 models are still available in glossy black, white and (a firm favourite in Asian markets) the satin rosenut pictured here. But I'll take the new satin walnut version, with the wood finish contrasting beautifully with the silver-coloured turbine and driver assemblies. Add in the leather by London-based crafter Connolly covering the top of the main cabinet, and this brings a real touch of refinement – especially, again, on the walnut version. But there's no faulting any version in terms of build quality or finish. Even considering the price hike which the D4 generation introduces, Bowers & Wilkins' finest very much look the part.

CLOSING THE GAP

Unusually Bowers & Wilkins maintains a two-tier approach, effectively splitting the 800 D4 family into two distinct parts. Below the 803 D4s are the 805 D4 bookshelf [*HFN* Feb '22] and the 804 D4 floorstander, both boasting a more conventional cabinet shape. This makes the 803 model the entry-point to the top-tier, as the R&D department flexes its muscles and drops in the latest innovations. All are immediately recognisable by the streamlined turbine head fitted with a decoupled tweeter on top.

In the D3 generation and before, the difference in sound quality between the models with and without the turbine head was so stark the choice was easy to make. That's less the case with the new lineup. Without losing sight of the 803 D4, the D4 update is as much about improving the entry-level 805 D4 and 804 D4 where the design improvements are very significant, including introducing the reverse-wrap cabinet design. This has closed the gap with the full-blown 800 models.

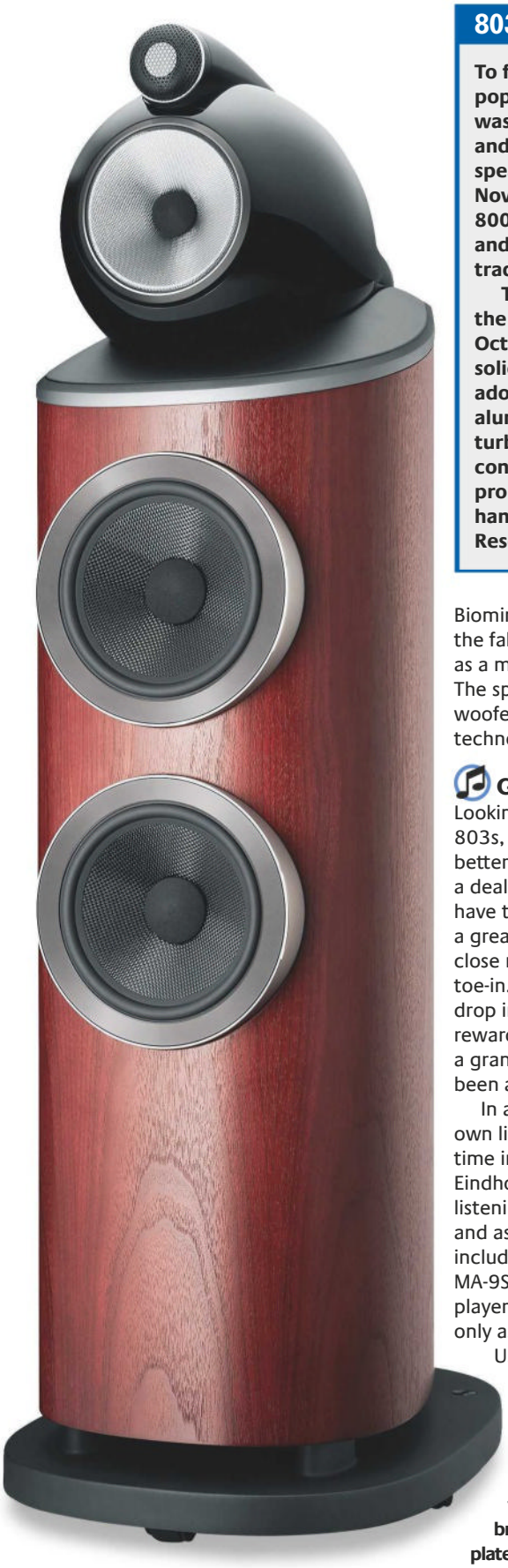
DECOUPLING IS HOT

This time around, the D4 version of the 803 features an enhanced tweeter on top – not the actual tweeter with its 'diamond' dome but a longer alloy tube that better dissipates its rear radiation. The turbine head, below, is not only very rigid and heavy but also contains mass dampers, now retuned, which further improves its inertness. Meanwhile, a new four-point decoupled mount for the Continuum midrange driver further reduces unwanted vibration.

> 'The thick bass line was nothing short of spectacular'

In fact, 'decoupling' is the magic word when it comes to the D4 generation. There's now less interplay between the turbine head and woofers in the main cabinet, and a more robust fit courtesy of a stiffer aluminium top-plate instead of the original wooden surface. In the same vein the tweeter on top is attached to the turbine on two points now instead of the single point anchoring of the D3 generation. B&W also touts its new

RIGHT: The 803 D4 features B&W's 25mm diamond dome 'tweeter on top', a 130mm Continuum cone FST midrange (with Biomimetic suspension) and a pair of 180mm Aerofoil cone bass units, reflex-loaded through a very wide port that fires down onto the plinth



803 TIMELINE

To find the very first 800 loudspeaker you'll have to head back to 1979 and pop into Abbey Road Studios. You'll only discover a single 801 model though. It was only in 1987 that the range expanded, when the Matrix 801 was launched and inspired a full Matrix range, including the first 803 – a two-way, four driver speaker sitting in the middle of the family. The Nautilus 800s followed [*HFN* Nov '98, Aug '99, Sep '01 & Aug '02] but major changes came in 2005 with the 800 Diamond [*HFN* Apr '05], the speaker that introduced the exceptionally light and stiff 'Diamond' tweeter (formed by chemical deposition). Still sporting a traditional cabinet, the 803 D featured the brand's 'tweeter on top' design.

The original 'Diamonds' were replaced by the upgraded D2s in 2010 but the 800 D3 series, launched in 2015, represented a more substantial leap [*HFN* Oct '16]. The 'Turbine' head housing the mid driver was now fashioned from solid alloy as was the tweeter pod, above, while the 800, 802 and 803 cabinets adopted the now-familiar 'reverse-wrap' design with its rear spine, again, of aluminium. The 803 D3 [*HFN* Mar '16] was upgraded to become the smallest turbine head model in the range and included the Continuum midrange cone with Aerofoil woofers. Then, as now, the 803 became a very attractive proposition for audiophiles looking for a more affordable way to get their hands on the latest tech coming from the brand's SRE (originally the Steyning Research Establishment, now the Southwater Research Establishment!).

Biomimetic Suspension which replaces the fabric spider in the midrange driver as a major improvement [*HFN* Nov '21]. The spider used for the Aerofoil coned woofers isn't replaced by the biomimetic technology but is revised and simplified.

GRAND SLAM

Looking back on past experience with 803s, the D4 model appears to be that bit better balanced, with less of an edge and a deal more refinement. The speakers still have their customary sparkle, now with a greater sense of detail, and retain the close relationship between imaging and toe-in. These are not speakers to casually drop in a room, but done right the 803 D4 rewards with an impressive soundstage on a grand scale. Stereo imaging has always been a strength of the brand.

In addition to using the 803 D4s in my own listening room I also spent some solo time in the late Ken Ishiwata's studio in Eindhoven. I've been here many times for listening sessions but this time around, and as a nod to Ishiwata-san, the system included a Marantz SC-7S2 preamp with MA-9S2 monoblocks. An SA-10 SACD-player [*HFN* Mar '17] was on hand, not only as disc spinner but also connected by USB to a NUC running Roon.

Loaded into the SA-10, 'Morning Bell' from Radiohead's *Kid A* [CDKIDA 1] was presented very intimately on the 803 D4s, with an immediacy giving me the impression that singer Thom Yorke stood a mere metre or two in front of me. The 803 D4s were no slouch when it came to low extension either. The sense of measured control when the speakers delivered the thick bass line underlaying 'The National Anthem' was nothing short of spectacular. I've heard this track on many loudspeakers, but rarely has the wall of sound when the saxophone and horns enter the fray been so distinct, massive but still detailed. Each instrument retained its own character, which considering the mad horn action is remarkable.

PIANO MAGIC

Similarly, Portishead's 'The Rip' [*Third*; Island Records 1766401] showed this was not a one-off. Here again, the fat repeating synth line displayed great texture, while the minimalistic percussion was beautifully exposed. However, Beth Gibbons' vocals were slightly over-emphasised, convincing me to reduce the 803 D4's absolute toe-in and proving, again, that these are loudspeakers you can't just park randomly and expect them to sound 'spot on'.

The careful, nearly hesitant playing of Alice Sara Ott on *Nightfall* [DG 483 5187, 96kHz/24-bit] always makes for captivating listening. Her version of Eric Satie's 'Gnossienne No.1 Lent' made a big impression on the 803 D4s, with microdetail aplenty and piano notes softly sustained resulting in a very authentic performance. When the album moves on to Satie's played-to-death 'Gymnopédie No.1',

LEFT: Available in gloss black, white, walnut and rosenut [pictured] finishes, the cabinet has horizontal aluminium braces and all-new, structural alloy top-plate to support the 'Turbine Head'

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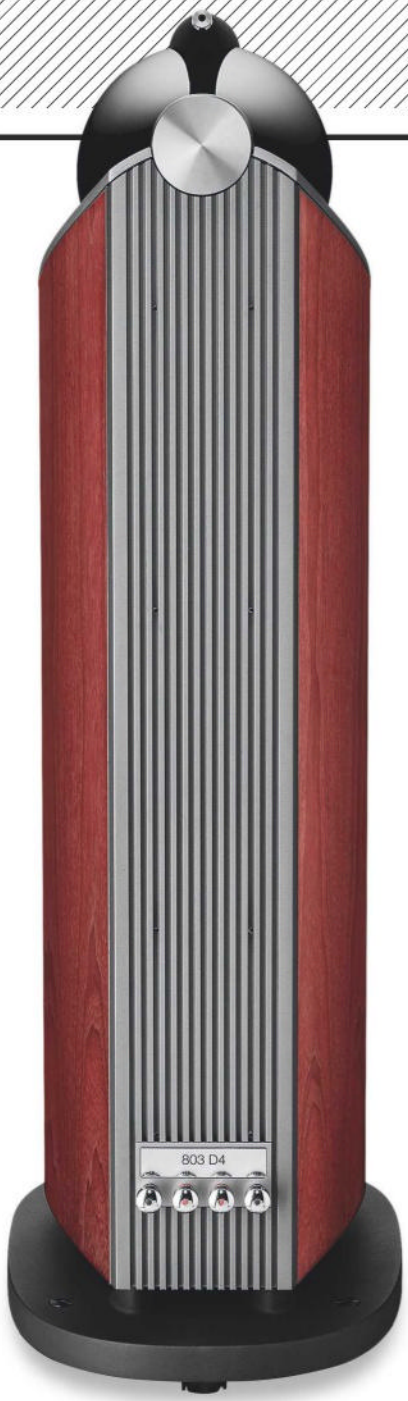

LEFT: As debuted on the 800 D3, the metal 'spine' of the 803 D4 completes the 'reverse-wrap' cabinet, and hosts the crossover and (bi-wirable) terminals. The alloy/steel plinth includes wheels

that sense of intimacy convinced me not to press stop, as I would do normally at this point.

Curtis Mayfield's *Curtis* [Rhino 8122-79932-2] remains a seminal recording of '70s soul. Social upheaval simmers in the background, with 'We The People Who Are Darker Than Blue' as a prime example. Above all, it's a great tune, with the percussion nimbly adding a splash of speed after a funky break halfway. Of course, Mayfield's compassionate call for equality remains centre stage, but it's the lush portrayal of the trumpets – on the precipice of harshness – and the groovy coherence of the whole that makes listening to this track on the 803 D4s even more engaging.

The detailed soundstaging that's in the 803 D4's DNA was keenly demonstrated when I dusted off *John Williams In Vienna*, recorded in the legendary Goldener Saal. The 'Devil's Dance' is a thrilling ride, and the 803 D4s were exemplary in highlighting the breathtaking violin playing of Anne-Sophie Mutter. When the orchestra joined in with force, counterpointing the violin, the blast of the horns and Pauken (tympani) were delivered with huge dynamic energy but also true sophistication.

FEEL THE FORCE

And what about the 'Imperial March', the most iconic of Williams' *Star Wars* themes? This is a great rendition – and not only because of the huge force behind the opening phrases. The percussion, especially, has a depth and character most lesser speakers would struggle to communicate. At the same time the low extension, while present and detailed, was neither overwhelming nor particularly dominant.

Combine this with how the 803 D4s lift out secondary instruments, such as the glockenspiel, and we are talking about a presentation that is insightful and detailed. What the 803 D4 really exposes are the more muted parts of the piece, building up to the crescendo – it's a wall of sound on an imperial scale.

HI-FI NEWS VERDICT

Standing on the shoulders of previous generations, the 803 D4 incorporates a long list of tweaks that further refines the entry-point into Bowers & Wilkins' current elite range. It's a step up rather than outright leap from the D3 but more attainable and nearly as much fun as the 801 D4 flagship. But like a performance sports car, you can't expect to just jump in and drive off. System-matching and setup are crucial.

Sound Quality: 88%

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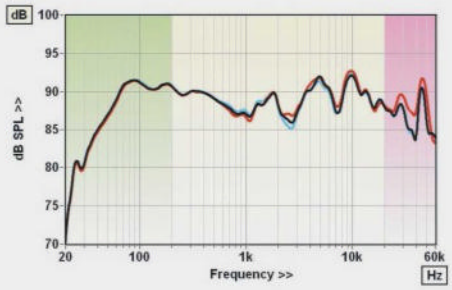
LAB REPORT

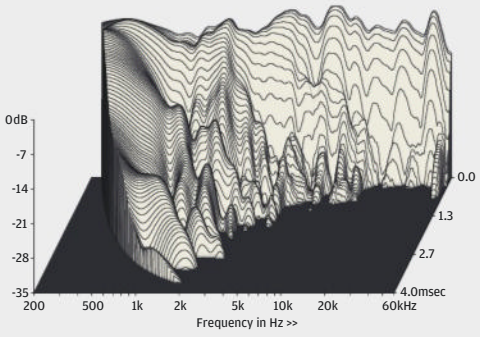
B&W 803 D4

Bowers & Wilkins' 803 D4 not only looks like a scaled version of the flagship 801 D4 [*HFN* Nov '21] but its performance bears parallels. The impedance trend is not dissimilar, though neither speaker offers a 'nominal 8ohm'. The 803 D4 hits a minimum of 2.7ohm/115Hz (sub-6ohm from 62Hz-1.3kHz) and a tough EPDR of 1.0ohm/82Hz, but while the down-firing port 'dip' at 26Hz is again similar, the 47ohm LF peak is half that of the 801 D4 and at a higher 15Hz (vs. 92ohm/12Hz). The smaller 180mm Aerofoil woofers have a reduced 47Hz-360Hz bandwidth (re. –6dB) but the diffraction-corrected LF extension remains a creditable 35Hz versus 19Hz for the voluminous 801 D4 (all –6dB re. 200Hz).

It's tempting to hope this relatively tough loading may feed into higher sensitivity, but the 803 D4's 87dB/2.83V/1m is short of the rated 90dB, not least because of a response dip at 1kHz. Averaged over 500Hz-8kHz, sensitivity improves to 88.5dB, just 1dB below the 801 D4 and with a similarly undulating, upwards-tilted presence/treble response trend [Graph 1, below]. Response errors are ±3.1dB and ±3.3dB (200Hz-20kHz), respectively, while the 'Diamond dome' tweeter's ultrasonic output is extended up to resonances at 28kHz, 45kHz and 69kHz [pink shaded area, Graph 1]. The magnetically-attached grilles offer precious little disruption [blue trace, Graph 1] with a maximum loss of just 0.7dB between 2-6kHz that should present minimal subjective impact (other brands, take note). Pair matching was excellent too, with a mere 0.9dB deviation from 200Hz-20kHz. Distortion is also fabulously low, especially through the slightly subdued mid frequencies at ~0.1% (re. 90dB SPL at 1m). **PM**



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w. grille, blue



ABOVE: There's a mild mistermination at 1.4kHz (along with a peak in response) but presence/treble is 'clean'

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	87.1dB / 88.5dB / 88.2dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.70ohm @ 115Hz 31ohm @ 44Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	–74° @ 54Hz +44° @ 1.4kHz
Pair matching/Resp. error (200Hz–20kHz)	0.9dB/ ±3.1dB/±3.3dB
LF/HF extension (–6dB ref 200Hz/10kHz)	35Hz / 32.1kHz/53.5kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.5% / 0.08% / 0.45%
Dimensions (HWD) / **Weight** (each)	1165x357x511mm / 62kg

Duruflé *Requiem*

Fauré Mark 2? Absolutely not, says **Peter Quantrill**, as he unravels the mysteries and contradictions surrounding this devotional work, and surveys its history on record

In 1941 the Vichy government of wartime France commissioned pieces from a wide range of composers as part of a nationalist cultural revival. Duruflé was 39 at the time and known more as an organist, not least because he withheld and revised far more music than he published, though in 1936 Paul Paray had conducted the premiere of three orchestral Dances which masterfully synthesise Debussyan impressionism and Ravellian shades of light.

SUITE SPOT

Commissioned for another instrumental piece, Duruflé eventually completed a full-orchestral Requiem, worked up from sketches for a solo-organ suite based on themes from Gregorian chant. Acceptance of the commission implies no sympathy with the collaborationist Vichy regime: Messiaen, for example, apparently produced 'a sumptuous and very sonorous' *Te deum* for a Vichy-organised spectacle to mark the feast day of Joan of Arc in May 1941. Duruflé's commission fee was honoured by the postwar French government, and the premiere of the Requiem was given on the eve of All Souls' Day in 1947 by Roger

Former student and second wife of Duruflé, and organist on the recording conducted by the composer – Marie-Madeleine

Désormière, and then in the US by Paray, both of them staunch Résistance musicians.

When getting to know the piece, or attempting to pierce its halo of diffused radiance, the composer's own 1960 recording would seem an obvious starting point. But hang on: that Désormière-led premiere is available on YouTube, and a remarkable document it is too. Listen past the wretched sound and the piece takes on a grandeur, a passion and stature at odds with most subsequent recordings.

> 'How no-tears-please-we're-British these choirs sound'

Our reception of the Requiem is complicated by the differences in nature as well as scale between its three versions, all of them made by Duruflé. The original is scored for an orchestra including celesta and tuba, and is coloured throughout by flecks of harmony and texture which do not survive in his pragmatic and commercially attractive later versions for solo organ and for chamber orchestra plus organ.

Through these later versions, Duruflé's Requiem is largely known as a kind of sequel to the much-loved Fauré. Yes, they are both distinctively French requiems in sound and Catholic liturgical function. Duruflé adopts from Fauré certain formal elements (among them a central Pie Jesu for soprano, asymmetrically balanced baritone solos, and an ending suffused by the light of Paradise) which Fauré had in turn adapted from the *German Requiem* of Brahms. Given the choice, many choirs prefer the Duruflé: it is, simply, a more interesting piece to sing.

PINCHED OBOES

Rather than a retrogressive glance at Fauré, however, Duruflé's Requiem invites comparison with contemporary pieces which emerged from the ashes of the last World War. The *Liturgique Symphony* of Honegger, *In Terra Pax* by Frank Martin, both also bridge a sacred-secular divide by means of a subtly personal, dissonant tonal style and orchestration which can often have a brassy, hollow ring.

Of course, there is no reason cathedral and college choirs should not perform a piece claimed by its composer as 'a religious work intended for the church'. There's nothing wrong with most of their recordings, according to their own lights. There's nothing wrong with sherry before Evensong, either, but how pious and no-tears-please-we're-British they sound by the side of those Désormière- and Duruflé-led recordings with their large, vibrato-rich choruses, their French-accented Latin and equally Francophone instrumental timbres (pinched oboes, saxophonic clarinets, sandblasting trumpets), and their tremendous swells of pathos in the outer sections.

It's too bad that accomplished full-fat recordings led by Richard Hickox (Decca) and Michel Legrand (yes, that one – on Teldec) are currently off the menu, even on

Andrew Davis, in his younger days: an eye and ear for the bigger picture

streaming. Plasson in Toulouse (EMI/Warner) is sleepy and his Basque choir seem to have been recorded from over the border. Chung's Santa Cecilia forces (DG) can't shake off an alien Verdian idiom, though Bartoli and Terfel are among the most rhetorically engaged soloists on record. Robert Shaw in Atlanta (Telarc) is, as often, memorably immaculate and forgettably bloodless (you would *always* guess he was Szell's chorus director).

Where some smaller-scale versions score is in their feeling for the Gregorian flow of Duruflé's setting. He wanted to avoid 'this monotony of our modern first beat, always weighty, always regularly accentuated'. Instead, he sought 'a suppleness and a lightness of expression, a reserve and an ethereal gentleness that free it from the compartmentalising of our barlines'.

In that regard, La Maitrise de Toulouse (brand new on Regent) and the Rouen Chamber Choir (Solstice)

Maurice Duruflé and toupee; his scalp was permanently damaged after his head was shaved during the 1918 flu epidemic

are both at home with the flexible, Solesmes style of chant singing which was Duruflé's ideal and which lies beyond the much more vocally polished Bavarian Radio Chorus (BR-Live) and an angelic host of Oxbridge rejects. A pair of Swedish versions on BIS also score highly here.

Duruflé's second wife, the organist Marie-Madeleine Duruflé, contrasted his teaching and playing of Franck – 'a very great freedom of interpretation' – with the stricter example of Dupré. The two baritone-led sections in particular, narrations of penitence and judgement, must bring the fire and brimstone to life.

This is where a proper conductor makes the difference, someone who has *Carmen* and *Der Rosenkavalier* under their skin as well as (or instead

Available in 192kHz 'Studio Master' guise from Linn, Robin Ticciati's version is an outstanding modern choice

of) shelves of anthems and motets. Andrew Davis and Robin Ticciati may have had a Cambridge training, but what they convey transcends the niceties of choral articulation; they (and their engineers) adjust the balance between instruments and voices – and build a bigger picture.

SLOW DISSOLVE

Davis is more closely miked and takes a more Romantically minded, interventionist approach than Ticciati, but both conductors pace the shape of the curve to each section so that its apex arrives with an ecstatically Wagnerian release. And it's all in the detail. Burbling clarinets and processional trumpet fanfares in the Sanctus, trumpets in the Kyrie not solemnly imitating the trumpet stop on an organ, offbeat celesta dissonances and a hazy horn melody In Paradisum – the later versions give you none of this.

I could have made this piece entirely about the texture of In Paradisum (more fun to write than read). Even some full-orchestral versions allow the organ to dominate. Davis never does, he builds a mighty climax over the choral triplets of 'Lazaro quondam paupere', and his slow dissolve is exquisitely judged, chorus fading to nothing while the second and seventh elements in the final chord of F sharp major hang in weightless suspension. But don't forget that Désormière-led premiere...

ESSENTIAL RECORDINGS

Orch Lamoureux, *etc*/Duruflé
Erato/Warner 3984242352
Easier to find on streaming than physical but essential as a faithful record of the composer's vision, and in decent stereo.

Ambrosian Ch, New Philharmonic/Davis
Sony SBK67182
Likewise hard to obtain in a physical format but an unusually detailed and sensitive recording for CBS from the '70s.

Rundfunkchor Berlin, DSOB/Ticciati
Linn CKD623
Vivid engineering to complement Ticciati's pictorial direction; Kožená at her steadiest and most affecting in the Pie Jesu.

Corydon Singers, ECO/Best
Hyperion CDA66191
Early-digital classic (1985), still my favourite chamber-orchestra version. Recessed choir but flowing, devotional direction.

Westminster Cathedral/O'Donnell
Hyperion CDA66757
The best English, organ-only version, thanks to Keenlyside's baritone solos and the biting, Continental timbre of the Westminster boys.

Westminster Abbey/O'Donnell
Hyperion CDA68020
O'Donnell's remake adds the Britten Sinfonia, tightens the tempi and tension, and enjoys a spectacularly open recording.

STEVE SUTHERLAND

Steve edited NME from 1992-2000, the Britpop years, launching NME.com and reviving the NME Awards. Previously he was Assistant Editor on Melody Maker. Among his many adventures he has been physically threatened by Axl Rose, hung out awhile with Jerry Garcia and had a drink or two with Keith Richards...

Small Faces
Small Faces

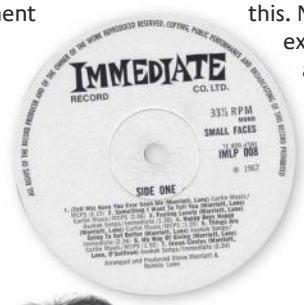
Under new management, the mod quartet got creative on an album of three-minute pop gems, but struggled when it came to the title. **Steve Sutherland** listens...

Considering we currently find him being dangled by his ankles off a balcony four floors above the pavement, you could say, without too much exaggeration, that Robert Stigwood is having a bit of a bad day. The bloke dangling him – with the aid of four fierce-looking heavies – is Don Arden, a gentleman who, shall we say, has a bone or two to pick with our Stig.

SINGULAR FOCUS

Arden has heard on the grapevine that Stigwood is trying to woo one of his bands away from his management company, hence all the dramatics. Strangely, with all his blood rushing to his head, Stigwood takes a sudden aversion to said band. He lives to fight another day while all in Arden's world returns to business as usual. Except... the band in question happen to be on tour up North when they hear their new single playing on the radio. That would be all fine and dandy but for the fact that it's a single the group know next to nothing about!

Arden, it seems, has taken a demo track called 'My Mind's Eye', which the band had roughly recorded for prospective inclusion on a forthcoming album and, deciding he needs a little something to service the Christmas market, has had Decca press it and release it. The band, it must be said, are none too happy about this. Nor are they exactly ecstatic about Arden's management style. They're cool with the plush Pimlico house which they've been given to live in, and the limo hired to be at their constant disposal. They have no real beef about the accounts set up so they can kit themselves out in the grooviest threads from Carnaby Street, and they've turned a blind eye and deaf ear to Arden fixing it so their early records charted via neat little back-handers here and there in the shops and on the radio. The 20 quid each per week salary is not too shabby either but, crucially, they have come to realise that they aren't actually getting paid the royalties and performance fees they're due. In short, the deal is starting to smell a bit fishy.



'For all their imagination, they called it *Small Faces*'

So the band whines, their manager blusters and issues threats, the band's parents get involved and Arden tells them their sons are all on drugs. This is not strictly untrue, as the story going round is that The Beatles' manager Brian Epstein dosed them with LSD via laced segments of orange at a party earlier in the year, and that they've now taken to acid like ducks to water.

Eventually the whole affair is settled when Andrew Loog Oldham, The Rolling Stones' manager who's in the painful process of being sacked by Jagger and co, buys out the band's contract for £25,000, allegedly delivering the severance fee in cash to Arden in a brown paper bag. He then sets up the band on his new label, Immediate, and suddenly the world is indeed their oyster.

HERE THEY COME

The band, by the way, is the Small Faces, a quartet of precociously talented mods just out of their teens who have the looks and the chops to rival The Kinks, The Who and Pink Floyd as the ace-face scene-makers in swinging '60s London. Off the leash, as it were, and free to follow their creative instincts, band members Steve Marriott and Ronnie Lane muck about with an old Lord Buckley monologue, 'Here Comes Da Nazz', and come up with 'Here Come The Nice', a fabulous paean to a drug-dealer which miraculously hoodwinks the BBC to

The Small Faces pictured in 1964 (l-r): Ronnie Lane, Steve Marriott, Ian McLagan, and Kenney Jones and (inset) label of the original UK mono LP, released in 1967

Priced £25.00, the 180g reissue of Small Faces' self-titled second album is available online at *www.diversevinyl.com*

the extent it doesn't think to ban it. The psychedelic masterpiece 'Itchycoo Park' follows suit, and sandwiched between the two comes the LP celebrated here.

LAUGHTER TRACKS

Recording began at IBC Studios while the band were still working for Decca, before switching to Olympic where Marriott and Lane produced, and Glyn Johns engineered. It's a total what's-not-to-like affair, 14 self-penned songs, all well under three minutes, succinct and pleasingly to the point. Stylistically it's a gas, as they'd say, encompassing all their roots and enthusiasms. It's enormous fun, a right giggle, nothing taken too seriously and yet rendered with verve and panache.

Marriott is a sensationally characterful and energetic singer, soulful without being clichéd. His 'Talk To You' and 'Get Yourself Together' are the album's highlights, full-on, riff-driven, and with a freshened-up trad beat. 'Green Circles' is the psychedelic one, very *Piper At The Gates Of Dawn*-era Pink Floyd but with a frothy pop sensibility. 'Happy Boys Happy' is like a Stax tribute, a joyous instrumental nod to Booker T & The M.G.'s showcasing Ian McLagan's considerable keyboard nous. 'Up The Wooden Hills To Bedfordshire' is a nifty Britpop blueprint too, as is the sunshiny cod-Calypso closer, 'Eddie's Dreaming'.

'Become Like You' is a punky, daft-as-a-brush, stick-it-to-the-man track – no wonder The Sex Pistols did Small Faces covers – and 'All Our Yesterdays' is a juicy vaudeville romp, taking the mickey out of itself *à la* The Bonzo Dog Band. The overall impression is of a group as much in love with the recording process as with the songs that emerge – one big musical smile; an artistic triumph which hints at the wonders to come in the shape of *Ogdens' Nut Gone Flake*, the Small Faces' genre-defining psychedelic pop follow-up.

Marriott, McLagan, Lane and Jones pose for a publicity shot in 1965

FEELING OF DÉJÀ VU

But, typically, when the album was released on 23 June 1967, in both mono and stereo, all was not plain sailing. For one thing, for all their surfeit of imagination, they ended up calling it *Small Faces*, which was exactly the same title as their Decca debut from the year before. This, unsurprisingly, served to confuse the public somewhat. Secondly, former manager Don Arden, never one to let sleeping dogs lie, did his best to scupper its release by assembling a compilation of tracks the band had done just before they left Decca. He called it *From The Beginning* and released it to coincide with the band's new offering. Both albums featured 'My Way Of Giving' and '(Tell Me) Have You Ever Seen Me'. The versions on Arden's LP were earlier takes but that did nothing to staunch further confusion amongst the fan base.

Undeservedly overshadowed by the mighty *Ogdens'*... and the spiffing singles that proceeded and surrounded it, *Small Faces* really is a luverly little gem.

RE-RELEASE VERDICT

The 1967 *Small Faces* album was re-issued in late February 2023 on limited edition 180g 'solid white' vinyl [Immediate/BMG/Charly Records IMLP008C], with lacquer cutting at London's Air Mastering and the original mono presentations of its 14 tracks. The release features the original sleeve artwork, plus an obi strip with a quote from Pete Townshend. A previous Immediate Records release in 2018, which arrived on blue 180g vinyl, was exclusive to Sainsbury's. *HFN*

Sound Quality: 90%

0 - - - - - - - - - 100

The Bunnymen *Ocean Rain*

The Liverpudlian post-punk quartet, led by enigmatic front man Ian McCulloch, were told they needed to write some 'killer tunes' after the lukewarm reception to their 1983 album *Porcupine*. They returned a year later having done exactly that...

Words: **Mike Barnes**

Label for side 1 of the original UK LP on Korova

The group in the mid '80s (l-r) Ian McCulloch, Pete de Freitas, Les Pattinson and Will Sergeant

Lead vocalist Ian McCulloch on stage in Spain in 2016

Posing for the camera in 1992 – Will Sergeant

Band portrait from *Heaven Up Here* inner sleeve

The promotional posters for Echo & The Bunnymen's fourth album *Ocean Rain* proclaimed it 'The Greatest Album Ever Made', a typically provocative quote from the group's singer Ian McCulloch. There were so many bands emerging in post-punk UK that if you wanted to get noticed you had to talk a good game, and with its historical cultural associations, Liverpool was particularly competitive.

McCulloch certainly relished his Mac The Mouth sobriquet. When asked on BBC Radio 1 in July 1983 how he felt about Echo & The Bunnymen's upcoming concert at The Royal Albert Hall, he just shrugged and said that they would simply transform it into another 'Church of The Bunnymen'.

PAST ECHOES

McCulloch had formed the band in 1978 together with bass player Les Pattinson and lead guitarist Will Sergeant, Echo being the name they gave their drum machine. They recorded a John Peel session the following year, but although they certainly had something about them, particularly McCulloch's distinctive voice, it all came across as stiff and rather primitive.

After this inauspicious start the group improved immeasurably with the recruitment of teenage drummer Pete de Freitas. A tight, punchy and imaginative player, he formed a solid yet limber rhythm section with Pattinson, whose bass lines were always in the pocket. Sergeant was a technically limited but imaginative player with incisive chord work and a knack for ear-catching melodic lines, and McCulloch added rhythm guitar. Echo & The Bunnymen now played with a confident swagger, as shown on their 1980 debut *Crocodiles*. Influences such as The Doors, 13th Floor Elevators, David Bowie, The Stooges and Television had become more discernible in a powerful, spacious approach that was being described in parts of the music press as ushering in a new form of psychedelia.

One of the items of apparel deemed *de rigueur* in the early '80s scene was the overcoat, which appeared to be worn like metaphorical protection against the chill existential winds that particularly affect serious young men. Ian McCulloch was rarely seen without one. As a doe-eyed, pouty, good-looking poetic type with gelled hair, he was a frontman who appealed to both sexes. A single taken from *Crocodiles*, 'Rescue', with its chorus 'Won't you come on down to my rescue?' proved to be a favourite of lovelorn students.

The follow-up, 1981's *Heaven Up Here*, was powerful, shadowy and melodramatic, with McCulloch's singing verging on histrionic at times. The singer had told de Freitas to 'get stuck into the toms', which prompted the thundering drum patterns that can be heard on both 'Over The Wall' and 'All I Want'.

> 'McCulloch told de Freitas to "get stuck into the toms"'

Echo & The Bunnymen's popularity was on the increase and *Porcupine*, released in February 1983, was their highest charting album, reaching No 2 in the UK. It included – and had been heralded by – two of their most popular singles, 'The Cutter' and 'The Back Of Love', both of which reached the Top 20 in the charts.

But with sober reflection, some fans of the band were wondering if McCulloch's unshakeable confidence in the group was beginning to sound like empty bluster. *Porcupine* was sonically dark and strange, but elements of the material were portentous and half-formed.

SPIKY RECEPTION

Much of it had been worked up in argumentative circumstances in rehearsal and to the listener it sounded like they collectively hoped that McCulloch could give it all some shape by singing some simple lines and then belting them out again a fifth or an octave higher. Reviewing

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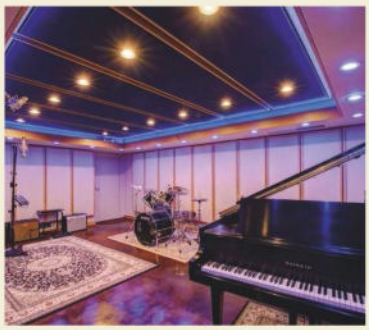
PRODUCTION NOTES

The initial sessions for *Ocean Rain* took place at Crescent Studios in Bath, where 'The Killing Moon' was recorded with producer David Lord. But the group rejected the backing track, which was re-recorded at Amazon studios in Kirkby near Liverpool, with de Freitas playing with brushes rather than drumsticks.

In November 1983, the band began work in Paris at Studios Des Dames, the main studio of French Phonogram. Luckily, in Pete de Freitas, there was a French speaker in the group, enabling them to communicate more effectively with studio engineer Henri Lonstan. Echo & The Bunnymen recorded most of the basic tracks within a week and then had time to experiment with some of the arrangements. On 'The Yo-Yo Man', de Freitas played celeste, Pattinson marimba and Sergeant a glockenspiel. And Sergeant's solo on 'My Kingdom' was played on an acoustic guitar over-driven through an old valve amplifier.

In December the group decamped to another Paris studio, Studio Davout, near Pere Lachaise cemetery where they recorded 'Silver' and 'Crystal Days' and added a 35-piece orchestra, with Lonstan assisting with the recording of the strings. Adam Peters completed the orchestral arrangements and also played cello and piano on the album.



McCulloch had often been sleeping off the previous night's partying while the others were laying down instrumental tracks, but when it came to recording his vocals in a side studio at Davout he didn't like the sound and the sessions were abandoned. Rather ironically, to get the performance he wanted, he ended up recording vocals on his own at Amazon Studios in Kirkby, where he also fine-tuned the lyrics.

the album in *New Musical Express*, Barney Hoskyns felt that, '...if the song "Porcupine" is the most shockingly dispirited thing Echo & The Bunnymen have ever done, Side Two horrifies the more for its uniform lack of inspiration'.

Ian Broudie, who had produced some of *Crocodiles*, told McCulloch that the band now badly needed to write some 'killer tunes'. Another Peel session in June 1983 showcased a trio of new songs, 'The Killing Moon', 'Silver' and 'Seven Seas'. The first two, especially, fell into this category.

OUT OF THE GATE

The first anyone heard of the material that was recorded for *Ocean Rain* was when 'The Killing Moon' was released as a single in January 1984. This grand romantic statement included McCulloch's most affecting vocal performance to date, and Adam Peters playing cello with synth strings added by producer David Lord. The follow-up single 'Silver' went even further, including an orchestral arrangement by Peters. These songs had a grandeur and colour, light and shade that *Porcupine* lacked, which boded well for the new album.

There was also a change of direction in de Freitas's drumming. He was now moving away from the heavy 'tribal' tom-tom style that he had helped initiate, and had also not used the crunching, gated snare sound that was beginning to dominate 1980s production. Now he was playing a rock style with brushes, which gave rise to sprightly, buoyant rhythms.

Ocean Rain was released in May 1984. Alongside the orchestrated songs were imaginatively arranged band numbers such as 'Crystal Days' and 'My Kingdom'. The latter starts with a handful of cheap, cheesy organ chords and Sergeant's acoustic and electric guitar figures. He plays a simple but brilliantly effective guitar solo that cuts right across the track, which he admitted was deliberately meant to evoke John Echols' searing break on Love's 'A House Is Not A Motel' from their 1967 album *Forever Changes*.

> 'As a youth, McCulloch had out-of-body experiences'

As a youth, McCulloch had out-of-body experiences and what sounds like an unusual form of synaesthesia. Talking to *MOJO*'s Pat Gilbert he described the effects of listening to a cassette of Bowie's *Ziggy* ⟳

Press shot issued by Sonic PR: (l-r) Will Sergeant, Ian McCulloch and Les Pattinson

Live on stage in Utrecht in November 2018 – Ian McCulloch

Studio Davout in Paris where the band used a 35-piece orchestra to add strings to a number of songs

Korova Records promo shot of the group from the early '80s (l-r): Sergeant, de Freitas, McCulloch and Pattinson

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Ian McCulloch on stage in 2018 and (below) the current lineup of the band is playing *Ocean Rain* in its entirety on tour in 2023

Stardust And The Spiders From Mars when he was aged 13. 'I'd listen to it while looking at the tree outside our living room window,' said the singer. 'At night, the leaves would bend in time with the music, as if they were nodding their approval. I was always looking for the beautiful things in my surroundings.'

BLEEDING HEART

McCulloch went on to explain that this sort of elemental imagery fed into his lyrics, but on *Ocean Rain* his words became particularly eccentric. An advert for the album included these contrived conceits from 'My Kingdom': 'If my heart is a war, its soldiers are bleeding/ If my heart is a war, its soldiers are dead'.

'Thorn of Crowns' is even stranger. McCulloch sings, 'You set my teeth on edge/You think you're a vegetable, never come out of the fridge', over Eastern-sounding guitar lines and a Bo-Diddley beat played with brushes, with a chorus boosted by Pattinson's melodic bass hook.

The maritime metaphors on the title track creak like a ship's timbers but it's one of the band's most successful creations, an orchestrated ballad akin to early Scott Walker and sung tenderly and with drama by McCulloch, with Adam Peters' sombre string arrangement billowing out at the close.

Not the greatest album ever made, then, but one of Echo & The Bunnymen's best efforts. It garnered good reviews and charted at No 4 in the UK and No 87 in the US, but when they seemed on the cusp of greatness, the band then fell into disarray, with a personal rift developing between the rock star McCulloch and his more down-to-earth campadres Sergeant and Pattinson.

Even worse, Pete de Freitas left the band, decamped to New Orleans and dived headlong into drugs and drink, which exacerbated underlying psychological problems. He formed the group The Sex Gods, who were little more than a name, but rejoined for Echo & The Bunnymen's self-titled album in 1987, which turned out to be the swansong of the original band lineup – de Freitas died in a motorbike accident in 1989.

> 'Adam Peters' sombre strings billow out at the close'

'I thought *Ocean Rain* was the foundation of something that would be even better', Pattinson told Pat Gilbert. 'But it didn't turn out that way. We were never the same afterwards.' The music, however, has endured and a version of the band is still playing the album in its entirety while on tour in 2023.

Alternate Format Discography

ORIGINAL LP

Ocean Rain was released in May 1984 on the Korova label in the UK and Europe [Kode 8, 240388-1], in a single sleeve with a lilac-coloured record bag with personnel and recording detail, and a photo of the string section from the Paris sessions.

In the US the LP arrived on Sire with a black inner sleeve [25084-1]. The Japanese edition was released on WEA/ Korova [P-11480] with a silver-grey obi strip, and a six-page insert of liner notes and lyrics in both English and Japanese.

CASSETTE

The UK and European cassette came out on chrome dioxide tape and had grey shells with white paper labels [Korova CODE 8, 240 388-4]. In the US the Dolby HXPro cassette was released on Sire, with embossed shells [25084-4].

FIRST CD RELEASE

Ocean Rain was first released on silver disc in the US in 1984 [Sire/Korova 9 25084-2] and was followed the same year by a Japanese CD release on WEA/ Korova [32XD-114]. The first European CD [WEA/Korova 240 388-2] also appeared in the same year [pictured above]. It was later reissued as a gold CD in 1989 with the same catalogue number.

The major addition to the standard CD came in 2003, with an expanded version of the album, remastered by Bill Inglot and Dan Hersch. In addition to the original nine album tracks was 'Angels And Devils', the B-side of 'Silver', and songs recorded at Liverpool Cathedral in July 1983 for the Channel 4 TV programme *Play At Home – Life At Brian's*: 'All You Need Is Love', 'The Killing Moon', 'Stars Are Stars', 'Villiers Terrace' and 'Silver'. There are also live versions of 'My Kingdom' and 'Ocean Rain' from the A Crystal Day concert at St George's Hall, Liverpool in May '84. This CD was released in the UK by Warner Strategic

Marketing [2564-61165-2] and in the US on Sire/Rhino with the same catalogue number.

In 2008 Rhino and Korova released a double CD in Europe in the Collectors' Edition Series [5186-50451-5]. CD1 [pictured above] included the standard tracklisting remastered in 2003, plus 'Angels And Devils' and two extended 12in single versions, 'Silver (Tidal Wave)' and 'The Killing Moon (All Night Version)'. CD2 comprised 17 tracks from a concert at The Royal Albert Hall in July 1983.

SPECIAL EDITION VINYL

Vinyl 180 released a double LP in 2015 with the second LP comprising 'Angels And Devils', the five tracks recorded at Liverpool Cathedral for *Life At Brian's*, plus 'My Kingdom' and 'Ocean Rain' from the A Crystal Day concert. This came in a hardbound book and was limited to just 500 copies, with new sleeve notes by Will Sergeant, and now commands high prices [VIN180LP076]. In 2021 Korova released a 180g pressing of the LP on blue transparent vinyl [KODE 8].

Inside the Studio

JUN TENDO/CREATIVE COMMONS

The Record Plant

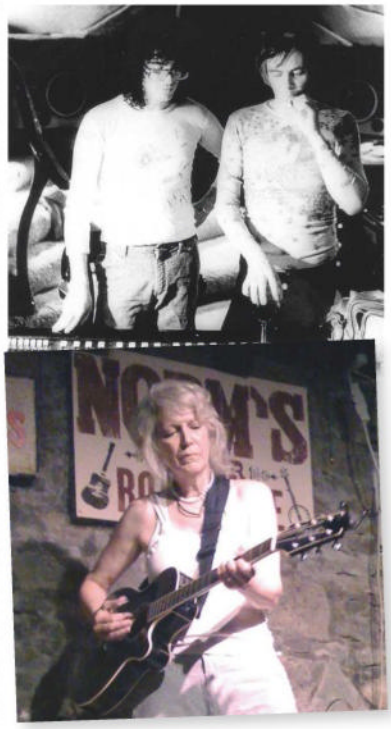
Founded in New York, this facility would expand to three studios in the US, catering to stars like Stevie Wonder, Metallica and The Stones. **Steve Sutherland** has the lowdown

Chances are you won't be familiar with Marshall Chapman, but she's an American singer/songwriter and one of the unsung heroes of our story. On the 10th of January 1978, she was working on *Jaded Virgin*, her second LP, when a fire broke out in the studio next door. Chapman downed tools and helped other musicians and engineers who were in the vicinity to carry priceless master recordings to safety outside the building.

Later, in her autobiography *Goodbye, Little Rock And Roller*, she wrote: 'We might as well have been rescuing Rembrandts from the Louvre... I remember seeing "Hotel California" marked on one, and "John Lennon" on another. I nearly fainted when I saw I was holding a box containing the master tape from *Songs In The Key Of Life*!'. Not all that follows ends so well...

Control room of Studio 2 in LA in 1988, opening celebration in LA in 1969 with Chris Stone and Gary Kellgren (far right), exterior of the studio in Sausalito

Gary Kellgren (right) in the Sausalito 'Pit' in 1975 and (right) Marshall Chapman on stage in 2009



The fire was in Studio C of a complex in Los Angeles known colloquially as Record Plant West. But our tale really begins right across the country on the East Coast where, in New York in 1968, the original Record Plant studio was founded by a recording engineer named Gary Kellgren.

COOL WORLD

Kellgren had been working with such artists as Jimi Hendrix, The Velvet Underground and Frank Zappa at the Big Apple's only eight-track facility, Mayfair Studios, by all accounts a pretty drab place. He had a vision to create a more cool working environment where artists could enjoy themselves recording, unlike the sterile facilities he was used to.

Forming a business partnership with Chris Stone, a graduate of UCLA Anderson School Of Management then employed as a sales rep for Revlon cosmetics, the pair wrangled

KEY RECORDING TIMELINE

1968
Soft Machine record their self-titled debut, the group's only album to feature Kevin Ayers as a member

1971
Mixed at The Record Plant in New York, *Concert For Bangladesh* is the studio's first mobile recording too

1979
Talking Heads make *Fear Of Music* using cables running from their New York loft to a Record Plant van outside

HERB GREENE

a $100,000 loan from Joanna Revson, second wife of Revlon founder Charles Revson, and they put together a studio at 321 West 44th Street, complete with an impressive 12-track built by Scully Recording Instruments.

Among their first clients was Jimi Hendrix, who booked three months to work on *Electric Ladyland*, and Soft Machine, who did their eponymous debut there in four days. The 12-track was upgraded to a 16-track and the soundtrack for the Woodstock album was mixed there, as was George Harrison's 1971 *Concert For Bangladesh*, which was the studio's debut remote recording.

COAST TO COAST

Other notable sessions from this era include Sly & The Family Stone's *There's A Riot Goin' On* and Don McLean's *American Pie* (both 1971), Alice Cooper's *School's Out* ('72), Aerosmith's *Toys In The Attic* and Springsteen's *Born To Run* (both '75), Blondie's *Parallel Lines* ('78) and Talking Heads' *Fear of Music* (1979).

Ownership of The Record Plant changed hands a number of times in this period, Kellgren and Stone raising funds to expand their operation to the West Coast. On the 4th of December 1969, they opened a new studio at 8456 West Third Street in Los Angeles employing the same plush principles. Kitted out by renowned studio engineer Tom Hidley, it boasted a 16-track recorder which was upgraded just a year later to a 24-track.

Studio C – the one that burned down – was set up in 1973 and Kellgren took to hosting informal jam sessions there on Sunday nights, mostly featuring his supersession drummer buddy, Jim Keltner. The sessions soon achieved a certain notoriety and became known as The Jim Keltner Fan Club Hour, attracting such luminaries as Mick Jagger, Ron Wood, Pete Townshend and George Harrison.

One of the get-togethers, which took place in late December 1973, became known as the 'Too Many Cooks' session. Under the leadership of John Lennon, an all-star lineup performed an extended version of the blues song 'Too Many Cooks (Spoil The Soup)', with Jagger on lead vocals, Keltner on drums, Jesse Ed Davis on guitar, Jack Bruce on bass and Harry Nilsson on backing vocals. It was released in 2007 on Mick Jagger's *Very Best Of...* album.

The Record Plant franchise expanded again in 1972, with a facility in Sausalito. The opening party Halloween invites were sent out on slabs of redwood and John Lennon attended with Yoko Ono, both dressed as trees.

Record Plant regular and instigator of 'The Pit' at Sausalito – Sly Stone in 1975

Battling flames at The Record Plant in Los Angeles after an electrical fire broke out in Studio C, destroying it

Steven Tyler (left) and Joe Perry of Aerosmith performing live in concert

Alice Cooper, who recorded his 1972 LP *School's Out* at the New York Record Plant, pictured the year the LP was released

The group Blondie in between poses for the cover of their 1978 album *Parallel Lines*, (left), label of the original release (inset) and (far right) Debbie Harry in 1977

The studio was setup at the behest of drummer Buddy Miles who insisted the San Francisco Bay Area lacked upmarket recording facilities.

WATER MUSIC

Miles was supported in his claim by radio station boss Tom 'Big Daddy' Donahue who went on to run an occasional show from the studio, *Live From The Plant*, on the KSAN rock station, featuring The Grateful Dead, Peter Frampton, Bob Marley And The Wailers and

2007
Kayne West spends time at the Plant working on *Graduation*. It debuts at No 1 in the US *Billboard* 200 chart

2007
The Very Best Of Mick Jagger is released with 'Too Many Cooks', recorded in 1973 at the LA studio

2013
Lady Gaga puts the finishing touches to *ARTPOP* at the Plant in Hollywood. It hits No 1 in the UK album charts

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Fleetwood Mac amongst many others. The shows continued until Big Daddy died in 1975.

Like the LA studio, Sausalito boasted a jacuzzi and added a conference room with a waterbed floor. Another attraction was the constant supply of industrial grade pure nitrous oxide. Refilled tanks were delivered weekly until allegedly a friend of Kellgren was found dead from asphyxia under one of them.

COVER SONGS

Sly Stone instigated the creation of The Pit, a studio built into one of the office spaces. It was a 140-square-foot acoustically dead room that had the engineer's controls sunk ten feet into the foundation of the building with bright maroon plush carpet on the floors, walls and ceiling. A bunk bed was accessible from the edge of The Pit, reached only by climbing through a giant pair of red lips. At the head of the bed, audio jacks allowed for mics to be connected to the console so that an artist could do vocals from under the bed covers.

Apart from Sly, Bill Wyman, then still of The Rolling Stones, recorded some of his solo album, *Stone Alone*, there, lying down to do his vocals with a bottle of brandy to hand. Elsewhere in the studio complex, Stevie Wonder worked on his *Songs In The Key Of Life* and, in February 1976, Fleetwood Mac blocked time to lay down tracks in Studio B for their monster-selling *Rumours*. A year later saw Prince arrive to cut his debut LP, *For You*.

TINSELTOWN SHUTTERSTOCK.COM

RAISING THE ROOF

The fun and games were interrupted in July 1977 when Kellgren drowned in the swimming pool at his Hollywood home. His girlfriend and secretary, Kristianne Gaines, who couldn't swim, also drowned trying to save him.

> 'Artists could record vocals while lying in a bunk bed'

While the facility at Sausalito saw numerous owners over the years that followed, the artists still arrived. Metallica virtually lived there in the mid-1990s, recording both *Load* and *Reload*, before moving on to found their own facility in San Rafael. The owner at the time, Arne Frager, spent $1 million on renovations customised for the band, including raising the ceiling to 32 feet to boost Lars Ulrich's drum sound. 'They basically built the room exactly how we wanted it', says producer Bob Rock. The Sausalito site finally closed due to bankruptcy in 2008. A new studio opened at the site in 2021 called The Record Factory.

Meanwhile, the LA operation had been moved to another location within the city, at 1032 Sycamore Avenue in Hollywood. Among the albums recorded or part-recorded over the ensuing years were Eminem's *The Marshall Mathers LP*, Guns N' Roses' *Appetite For Destruction*, Lady Gaga's *ARTPOP* and Beyoncé's *Lemonade*.

WEST SIDE STORY

Rapper Kanye West also worked there. On the 23rd of October 2002, he was leaving the studio at about 3am after doing a production stint when he fell asleep at the wheel of his rented Lexus and crashed. Rushed to Cedars-Sinai Medical Centre, he had his jaw wired up in reconstructive surgery. A mere two weeks later he was back at The Record Plant recording a song about the incident called 'Through The Wire', his jaw still wired shut.

The track appeared on his *Get Well Soon* mixtape before being re-recorded and released as the first single from his breakthrough debut LP, *The College Dropout*, in 2003. The album was recorded at the Plant, as were his next two phenomenally successful opuses, *Late Registration* and *Graduation*.

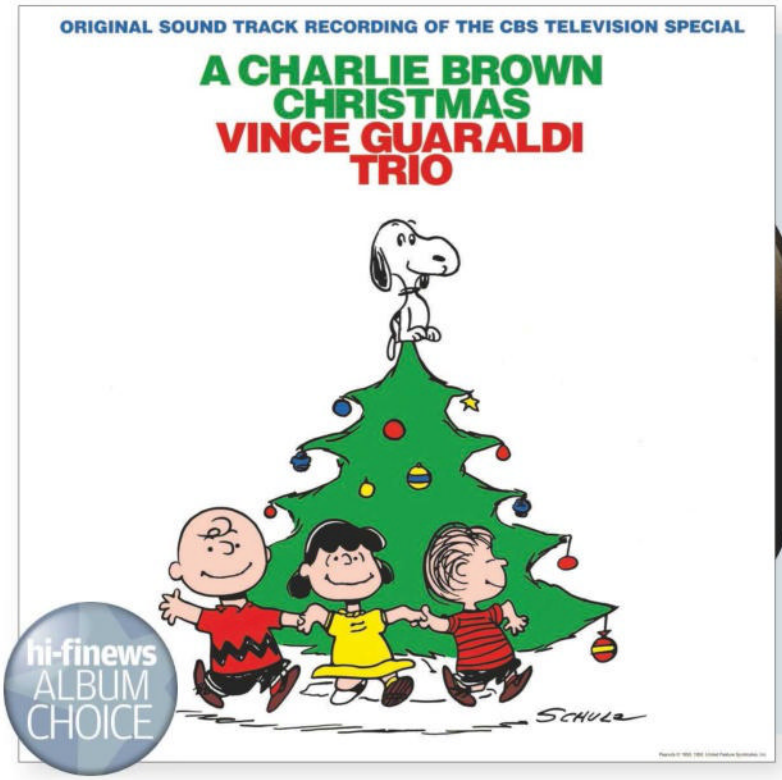
West said later: 'Well, the only thing this accident's saying is, "I am about to hand you the world, just know at any given time I can take it away from you". Kanye may have swerved off the rails of late but The Record Plant is still going strong.

On stage in London in 2008, Kirk Hammett and James Hetfield of Metallica and (inset) their album *Load* from 1996

Beyoncé in 2019. She recorded her sixth studio album, *Lemonade*, at the LA Record Plant after it had been relocated to Sycamore Avenue in Hollywood

Stevie Wonder used The Record Plant studios in LA as well as Sausalito to record *Songs In the Key Of Life* while Kanye West (right) recorded his 2003 debut album at the LA facility in Hollywood

AUDIOPHILE: VINYL



VINCE GUARALDI TRIO

A Charlie Brown Christmas

Craft/Fantasy 8431 (coloured vinyl); SACD; BD Audio

There *is* a point to reviewing a Christmas LP in May. Yes, this is a soundtrack to an animated film, but the music transcends the holiday itself as well as the feature it accompanies, because, irrespective of its mix of incidental music and seasonal classics such as 'Hark! The Herald Angels Sing' and 'O Tannenbaum', it's simply a gorgeous-sounding, gentle jazz set that has been pushing audiophile buttons since 1972. This re-release is offered in black, 'snowstorm', or a handful of other coloured vinyl choices (some exclusive to US or online retailers), a Super Deluxe 4CD/Blu-ray Audio box set, an 80-track digital collection and 2LP or 2CD editions. I'm happy with this single-LP version, because it is a joy all year 'round. *KK*

Sound Quality: 90%

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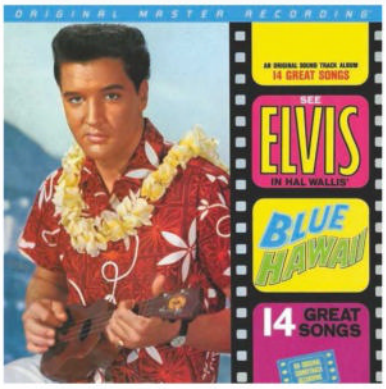

ELVIS PRESLEY

Blue Hawaii

Mobile Fidelity MFSL2-504 (two 45rpm LPs); UDSACD 2226

Accompanying one of the last of his watchable movies before it all turned turgid, 1961's *Blue Hawaii* was a fun comedy that suited Elvis's return to civilian life. While most of his soundtracks failed to deliver even one song to equal his non-movie tunes, this film at least gave us one worthy of any of his greatest hits packages: the magnificent 'Can't Help Falling In Love'. Although the rest is more like his usual Hollywood fare, these latest transfer LPs add to the slim canon of Elvis's audiophile reissues – but then all RCA recordings of this era are uniformly superb-sounding. *Blue Hawaii* is also released on SACD, possessing a slightly sharper treble. *KK*

Sound Quality: 90%

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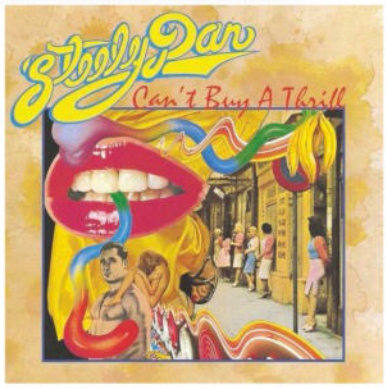

STEELY DAN

Can't Buy A Thrill

Geffen B00035111-01 LP

Everyone has their fave Steely Dan LP – most audiophiles cite *Aja* – but this, their 1972 debut, is mine. Many cerebral rock bands followed The Beatles' genre-launching *Rubber Soul*, but Steely Dan further elevated the IQ by dozens of points, its freshness remaining 50 years on. For brainy listeners, their combination of thought-provoking lyrics and music rooted in jazz countered the irritating pretence of prog-rock. This first effort – the equal of The Doors' debut – ranged from the rock of 'Reelin' In The Years' to the funk of 'Do It Again' to the tragedy of 'Dirty Work'. It only misses LP of the Month because of Analogue Productions' UHQR version. *KK*

Sound Quality: 85%

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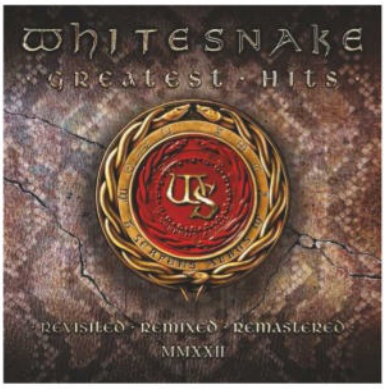

WHITESNAKE

Greatest Hits Revisited - Remixed - Remastered

Rhino RI 680917 (two 180g LPs)

As the subtitle reveals, this collection delivers fresh takes on 16 songs taken from 'the sonic time capsule of the '80s and '90s, and brought up to date, sound-wise', says lead singer David Coverdale, while the originals remain 'for those who consider them holy relics'. This should disarm purists averse to extra instrumentation on many tracks, *eg*, by former guitarist Adrian Vandenberg on 'The Deeper The Love' and 'Judgment Day'. Whatever your stand, the new mixes are super-clean and detailed, with no loss of stadium-filling power. Off hand, I can't name another hard rock/heavy metal band that has taken such care with re-presenting its back catalogue. *KK*

Sound Quality: 85%

0 - - - - - - - - - 100

THE INTERNATIONAL SUBMARINE BAND

Safe At Home

Sundazed SC5615 (mono)

Twenty years after issuing a stereo LP of this 1968 country-rock gem and a stereo CD in 2004, Sundazed has a fresh CD which Gram Parsons acolytes will find irresistible. In addition to offering the album in mono, it contains a dozen previously unreleased tracks not found on any of the other versions all over Amazon. More country than rock, it's a precursor to The Byrds' Parsons-led *Sweetheart Of The Rodeo*, but I wish sticker writers would stop claiming this launched the genre: Carl Perkins and Buddy Holly beat it by more than a decade, The Beatles covered Buck Owens in 1965 and Rick Nelson went country rock in '66. Gram was good, not God. *KK*

Sound Quality: 85%

0 - - - - - - - - - 100

TED NUGENT

Free For All/Cat Scratch Fever

Vocalion CDSML 8585 (SACD stereo/quadraphonic)

Nugent's second and third solo LPs, from 1976-77, haven't dated much because – as per Black Sabbath, AC/DC and others – the genres have barely evolved. OK, they've sired sub-genres like thrash or speed metal, but these guitar-driven sets could have been released in any year since 1968. Historically, this SACD is notable for a pre-*Bat Out Of Hell* Meatloaf, singing lead on five tracks on *Free For All*, while the sound is as in-your-face clean as Whitesnake's modern remastering (see facing page), in stereo and quad on the first, stereo-only on the second. Nugent is unfashionable in some circles for his pro-gun/anti-vegan views, but, wow, does he rock. *KK*

Sound Quality: 85%

0 - - - - - - - - - 100

TIERRO BAND WITH BRIDGET LAW

Everlasting Dance

Octave Records OCT0020 (SACD + data DVD; downloads to 192kHz)

With Law's delightfully screechy fiddle as the primary instrument here – think Charlie Daniels or Papa John Creach – and a mash-up sensibility regarding world music, this album will tick a lot of boxes. 'Eclectic' doesn't even come close to describing it. The flavours include Cajun, Latino, Mariachi, alt.country, folk and more, creating a blanketing of the listening space with lush strings and rolling percussion, including tabla for a touch of the East. The vocals, too, recall assorted territories, so those worried about cultural appropriation may implode. It's their loss: this sounds as good as any demo-grade audiophile release you could ever hope to hear. *KK*

Sound Quality: 90%

0 - - - - - - - - - 100

QUINCY JONES

The Dude

Intervention IS-SCD-18 (SACD)

In August 2022, the LP version of this soul/funk classic earned a respectable 85% rating, and this edition scores higher because the SACD transfer somehow has a bit more crispness and 'bite', which better suits disco-era funk. Incidentally, for those who always prefer vinyl to any digital format regardless of the actual sound, the scores here are relative to the *format*. Anyway, to recap, Jones's hit 1981 solo release could match any A-lister's work in the Philly soul or disco arenas, including his main charge, Michael Jackson. But the issue remains that the labels need to co-ordinate competing releases, in this case A&M's vinyl LP at the same time as Intervention's SACD – see the Steely Dan *Can't Buy A Thrill*, on the facing page. *KK*

Sound Quality: 90%

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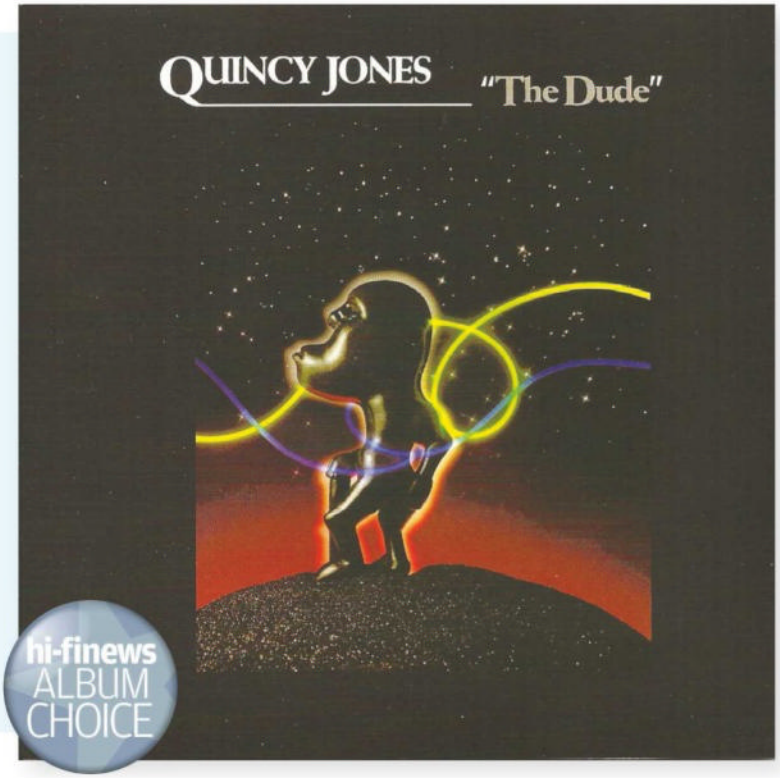
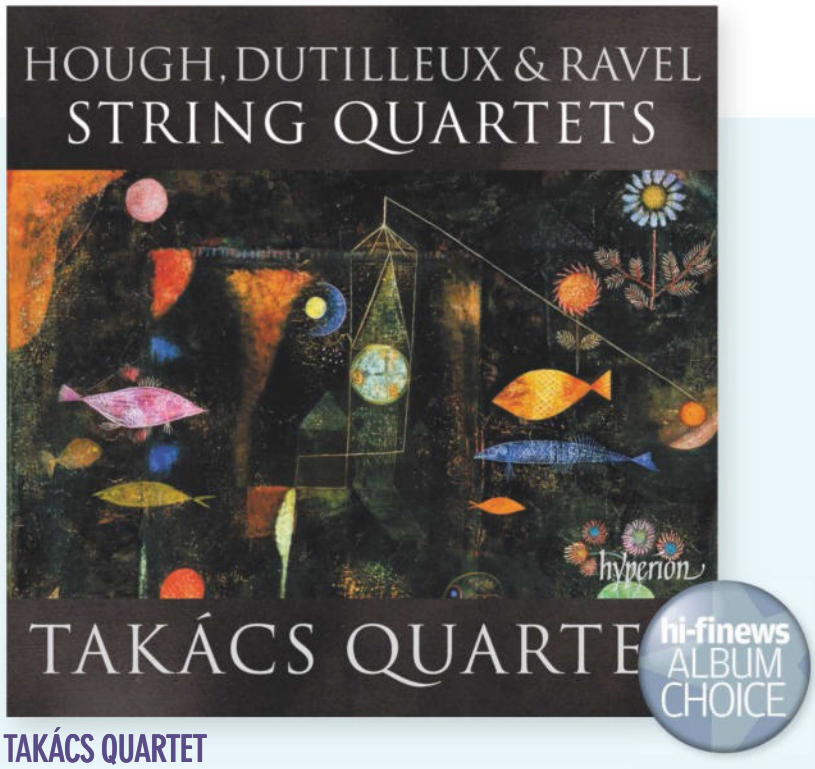


HI-RES DOWNLOADS



TAKÁCS QUARTET

Hough, Dutilleux & Ravel: String Quartets (96kHz/24-bit, FLAC)

www.hyperion-records.co.uk; Hyperion CDA68400

The lineup of the Takács Quartet has only gradually evolved since its formation in 1975 while students, and the core of its personality on record has endured at least since its Decca days. Each track here, though, is caught on the wing with the picture-book immediacy of their best concerts and their Bartók cycle. If the Ravel is the most familiar piece, it still opens up a world of wonder thanks to the palpable atmosphere of both playing and engineering. Their *Ainsi la nuit* is less elliptical than the Ebène Quartet (Warner), more sensuous in registering Dutilleux's suggestive contrasts of light and timbre. Stephen Hough's 2021 quartet makes a fine complement and contrast, taking an oblique look at tonal harmony and counterpoint through six sketches set in a park, a hotel, a church and so on with the sharp but affectionate eye of a musical Cézanne. *PQ*

Sound Quality: 95%

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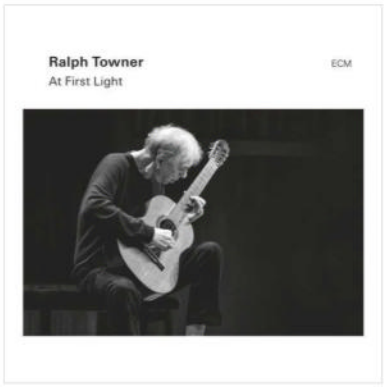


RALPH TOWNER

At First Light (96kHz/24-bit, FLAC)

www.ecmrecords.com; ECM 2758

Ralph Towner, now 83, has been on the ECM roster for around half a century since the release of his first solo album, *Diary*, so it's a pretty safe bet that label and performer have got the hang of each other by now. And so it proves on this latest set, recorded in Lugano, Italy, February 2022 and produced by ECM boss Manfred Eicher. It includes Towner's own compositions, for which he cites influences as diverse as Gershwin and Dowland, along with takes on some standards and even the traditional 'Danny Boy'. Recorded in Towner's preferred long-term fashion for the label – ostensibly as 'live' – this set, described by Towner as 'basically a thumbnail of my entire life', is as alluring for his still-wonderful guitar technique as it is for the exquisitely detailed and sympathetic recording, both dynamic and entirely fuss-free. It sounds nothing less than glorious. *AE*

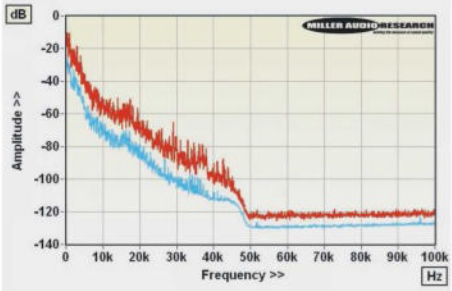
Sound Quality: 90%

0 - - - - - - - - - 100

OUR PROMISE

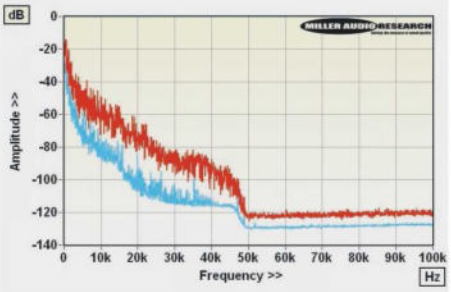
Following our Investigation feature [*HFN* Jun '11] where we examined the claimed quality of 'high-res' downloads, *Hi-Fi News & Record Review* continues to measure the true sample rate and bit-depth of HD music downloads. The Graphs show peak [red] and RMS [blue] spectra. These unique reviews will be a regular source of information for those seeking new and remastered recordings offered at high sample rates and with the promise of delivering the very best sound quality. (Note: an asterisk in the heading denotes a technical reservation – see Lab text). **PM**

LAB REPORT



Peaks range from –6.2dB (trk 2) to –0.3dB (trk 9) in this native 96kHz recording where the higher harmonics of the two violins soar to ~45kHz. There is a trace of (inaudible) spuriae at 33kHz but this is otherwise a clean Hyperion file. PM

LAB REPORT



Sensitively recorded with no digital peaks breaching the top 'bit', this genuine 96kHz file will give all DACs an easy time while still realising an above average dynamic range. The classical guitar's bandwidth is fully accommodated. PM

CUPERTINOS/LUÍS TOSCANO

Pedro de Cristo: Magnificat, Marian Antiphons & Missa Salve Regina (96-192kHz/24-bit, FLAC)

www.hyperion-records.co.uk; Hyperion CDA68393

A golden-age polyphonist to set alongside Alonso Lobo and Manuel Cardoso, Pedro de Cristo (c1550-1618) made no less substantial liturgical contributions to the cult of the Virgin in late 16th-century Portugal. The *Missa Salve Regina* is one of several notable firsts on record. Music, singing and engineering all glow with gentle radiance, filling the Basilica at Braga without drowning in its resonance. Cristo writes within a narrow compass; the effect in a motet like *Beata viscera* is not of densely overlapping events (unlike, say, Gombert) but a calm expansion of voices towards a common goal – as we might desire for hymns dedicated to Mary. Smoky Iberian colours from the mixed Cupertinos voices, surprising but pleasing countertenor timbre from the female altos, and steadily paced, unaffected direction. *PQ*

Sound Quality: 85%

0 - - - - - - - - 100

EVA BJERGA HAUGEN

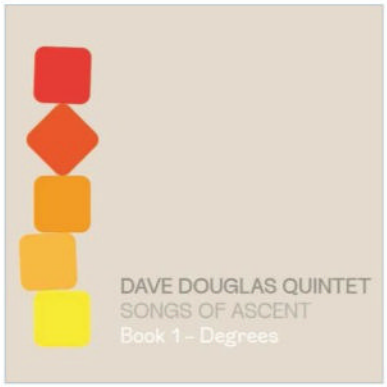
Stille Grender (96kHz/24-bit, FLAC)

https://grappa.no; Grappa GRCD4756

Christmas in April – well, why not? It's a shame that so much great music is written for the festive season, then packed away on Boxing Day for another 11 months, especially if it includes the superb Nordic sounds released in recent years. And that would certainly cover this set by Norwegian jazz singer/pianist Eva Bjerga Haugen, ably assisted by the guitar of Morten Askildsen and the imaginative trumpet of Simen Kiil Halvorsen and the light-touch bass of Thomas Bang. Yes, some of the tunes are familiar, but given a fine jazz twist by the ensemble, while the local traditional songs are equally captivating, and atmospheric. The album is imbued with the spirit of 'Scandi-jazz' – never a bad thing – and treated to a fine recording: deep of soundstage, crisply detailed and even attention-grabbing as the days grow longer. Make it your guilty pleasure – and chill... *AE*

Sound Quality: 85%

0 - - - - - - - - 100



DAVE DOUGLAS QUINTET

Songs Of Ascent: Book 1 – Degrees (44.1kHz/16-bit)

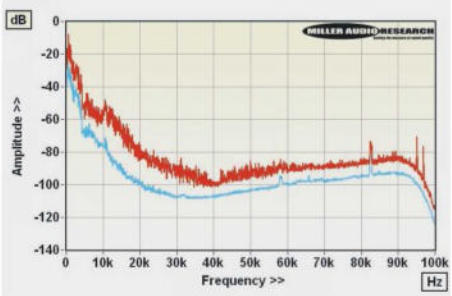
www.greenleafmusic.com; Greenleaf Music GRE1096

We're still seeing the knock-on effects of the Coronavirus pandemic – so as working from home became a thing rather than an oddity, *recording* from home has become the norm for many artists. Dave Douglas's set, the first of two based on the 15 biblical psalms from which it takes its name, is an example, assembled rather than produced in the conventional sense. Douglas laid down all his tracks first, then the rest of the musicians, including Linda May Han Oh (bass) and drummer Rudy Royston, added their own contributions, all from home. It's surprising how well this 'remote recording' works, so you'd never know the musicians weren't all together at once. The sound is punchy, upbeat and open, with crisp rhythms and fine instrumental timbres. Even if you don't have an interest in the sacred sources, this set is fine-sounding, hugely enjoyable and – yes – uplifting. *AE*

Sound Quality: 80%

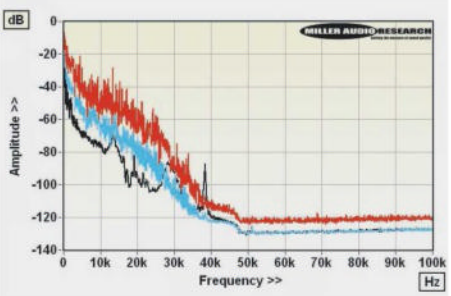
0 - - - - - - - - 100

LAB REPORT



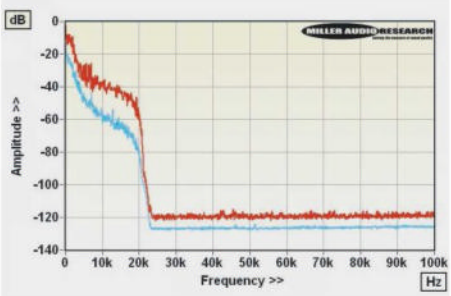
Recorded in the Basílica do Bom Jesus, Portugal for Hyperion, both 96kHz and 192kHz files have sufficient range to capture the soprano voices. Peaks are not excessive but there are occasional bursts of low-level spuriae at 42kHz-60kHz. PM

LAB REPORT



All the tracks here are normalised to a high –0.13dBFs and some (trks 1, 4, 8, 10, 11) include moderate levels of spurious interference [black trace]. Otherwise, aliasing is well suppressed and dynamic range is merely 'average'. PM

LAB REPORT



The 44.1kHz (~20kHz) bandwidth is insufficient to fully capture the tenor/soprano sax and alto clarinet but at least the stopband is free of aliasing. All tracks are normalised to –0.2dBFs and dynamic range is slightly above average. PM

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YO LA TENGO

This Stupid World

Matador OLE1929CD; LP: OLE1929LE

Since their inception in 1984, Yo La Tengo's broad musical tastes have been reflected both in their eclectic choice of cover versions and an ability to boil their influences down into sparsely constructed songs where pop meets experimentation. 2018's *There's A Riot Goin' On* felt like an escape from the world into a reassuring inner space, but *This Stupid World* is filled with disquiet, and a sense of time passing: singer and guitarist Ira Kaplan attempts to escape from its flow on 'Fallout'. There's an urgency and an abrasiveness to the guitars, which build to a roar over Georgia Hubley's unadorned pounding drums on the title track, but the album resolves with the drift of her softly-sung closer, 'Miles Away'. *MB*

Sound Quality: 85%

0 - - - - - - - - - 100

NE OBLIVISCARIS

Exul

Season Of Mist SOM573D; LP: SOM573LP

Back in 2007 eyebrows were raised when Norwegian death metal band Dimmu Borgir recorded with the Prague Philharmonic, but this kind of crossover has become an accepted addition to the genre and Australian 'progressive extreme metal' band Ne Obliviscaris add flamboyant string parts to their dense riffing, superfast pummelling drums and demonic growls. These dark elements are contrasted by nimble bass guitar, melodic 'clean' singing, sweet toned electric, and even acoustic guitar on 'Misericorde II', which builds from a hushed start to a thrilling conclusion. It's vivid, brilliantly played, with the bombast and melodrama turned up to 11. *MB*

Sound Quality: 85%

0 - - - - - - - - - 100

THE NECKS

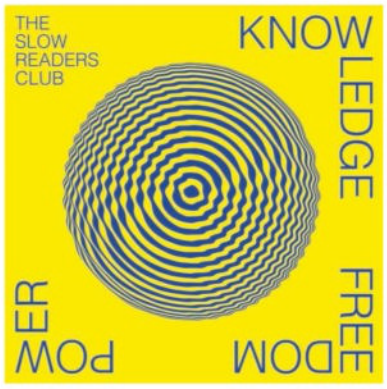
Travel

Northern Spy NS158; LP: LPNS158

It's a bit of a stretch to label this Australian trio 'rock', but despite their double-bass, drums and keyboards lineup they aren't a jazz trio either – or any easily defined category. The Necks are known for their immersive hour-long numbers that explore repetitive elements, but on *Travel* we have four 20-minute improvisations – reflecting the way they start each practice session – with overdubs. On 'Signal' the bass turns around on two chords, with the drums juggling the beat beneath lyrical Hammond organ and piano figures. 'Imprinting' is looser but equally mesmeric and 'Bloodstream' more abstract; but all are imbued with The Necks' singular magic. *MB*

Sound Quality: 80%

0 - - - - - - - - - 100



THE SLOW READERS CLUB

Knowledge Freedom Power

Velveteen SRC034CD; LP: SRC034LP

'Modernise' kicks off the Manchester quartet's sixth studio album with attention-grabbing, garish synth fanfares and thundering tom-toms, and an addictive verse melody that shifts up into an anthemic chorus. On it they address issues of 'technofear', a nod to those struggling with the speed of technological progress. Although this electro-indie style dominates, 'Lay Your Troubles On Me', with its silvery guitar lines, finds them in a more contemplative mood. Aaron Starkie's vocals carry a yearning quality and on the title track, a mix of hipness, positivity and a plea for emancipation as he exhorts us to join 'a world full of beauty and wonder'. *MB*

Sound Quality: 80%

0 - - - - - - - - - 100

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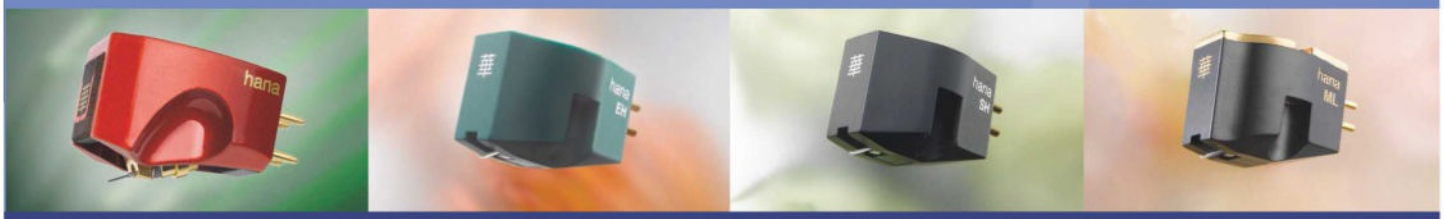

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CHRIS POTTER

Got The Keys To The Kingdom: Live At The Village Vanguard

Edition Records EDN1214; LP: EDNLP1214

After lockdown, when he recorded all the instruments on his amazing multi-tracked solo album *There Is A Tide*, the master saxophonist emerged stronger than ever. Here he leads a powerful all-star quartet with pianist Craig Taborn, bassist Scott Colley and drummer Marcus Gilmore, choosing, he says, 'tunes people don't usually play'. They start with an intense and wide-ranging workout based on 'You Gotta Move' (by Fred McDowell, made famous by The Rolling Stones), build to a passionate climax on Billy Strayhorn's 'Blood Count' and expound brilliantly on Charlie Parker's challenging 'Klactoveedsedstene'. *SH*

Sound Quality: 85%

0 - - - - - - - - - 100

TIM GARLAND & JASON REBELLO

Life To Life

Whirlwind Recordings WR4799

A duo born of a friendship that started at the Guildhall School 30 years ago. Since then Rebello has worked notably with Sting, Jeff Beck and Phil Collins, while Tim Garland is now a much-awarded composer and arranger whose many small group projects include the still-thriving Acoustic Triangle. Each contributes four originals, Rebello on piano creating varied and propulsive backgrounds, Garland ringing the changes from tenor to soprano and even sopranino sax (for Chick Corea's 'Children's Song No 6'). They also turn brilliantly to bass clarinet on Rebello's fast and furious 'No Hope No Tears' and, finally, on a beautifully evocative 'Black Is The Colour'. *SH*

Sound Quality: 85%

0 - - - - - - - - - 100

DAVE BRUBECK QUARTET

Debut In The Netherlands 1958

The Lost Recordings TLR2204043

Nearly complete, this is the concert that opened Brubeck's momentous State Department tour of 1958. Of the nine titles here only 'The Wright Groove' and 'Watusi Drums', appeared in the Copenhagen concert album *Brubeck In Europe*. Others, including 'Two Part Contention', featured on a bootleg of the Berlin concert, but now you also hear 'Someday My Prince Will Come' and 'For All We Know'. Wright's bass sounds soft and woolly while Morello is a little too loud, although this hardly matters as his drumming is so great, especially on the crowd-pleasing 'Take The "A" Train', where he trades fours with Brubeck until the tape runs out. Essential. *SH*

Sound Quality: 80%

0 - - - - - - - - - 100

JOE CHAMBERS

Dance Kobina

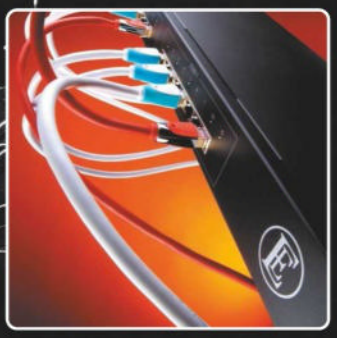
Blue Note 4598364

Though he's heard on many classic Blue Note albums, this is only the veteran drummer's third for the label as leader. Here the pianist is Montreal-based Andrés Vial, whose South American heritage chimes in with Chambers' Afro-Latin inspirations. Bassist is Ira Coleman, who played on Chambers' *Mirrors* in 1998 and would have joined him on *Samba de Maracatu* in 2021 but for pandemic travel restrictions. They kick off crisply with Kurt Weill's 'This Is New', followed by the title track featuring Elli Miller Maboungou on a Bantu Ngoma drum. Later there are contributions from two more fine Montreal musicians, Michael Davidson (vibes) and Caoilainn Power (alto sax), completing a CD that's varied and fresh. *SH*

Sound Quality: 90%

0 - - - - - - - - - 100

WINNING PERFORMANCE



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SIR ANDRÁS SCHIFF

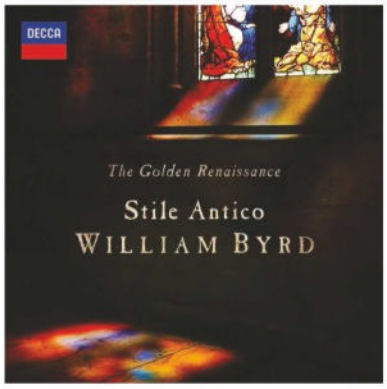
JS Bach: Inventions & Sinfonias, etc

ECM ECM2635/36 (two discs; downloads to 96kHz/24-bit resolution)

'C – this one go plunk' wrote Molesworth in his searing critique of the 'skool piano'. All the notes go plunk on Schiff's clavichord, but that's part of its charm. It can't be overstressed that Bach sat and wrote daily at the clavichord, a smaller and quirky cousin to the harpsichord, and this feels like the closest we could come to standing over his shoulder and turning pages in the music room of his Leipzig home. The instrument's action and decay set the pace in the *Capriccio And Ricercar à 3*, but they hardly inhibit Schiff's imaginative vision in a climactic *Chromatic Fantasia And Fugue* that sweeps all before it. Schiff says he now hears Bach differently after getting to know the clavichord, and perhaps you will too. *PQ*

Sound Quality: 95%

0 - - - - - - - - 100



STILE ANTICO

Byrd: Mass For Four Voices, Motets And Sacred Songs

Decca 4853951 (downloads to 96kHz/24-bit resolution)

Don't let the chill-out Tudor design deceive you: these are super-polished but gutsy and intelligent, deeply repeatable performances. Late rarities bookend the album and make the case for Byrd as the Elizabethan polyphonist supreme: *Retire, My Soul* surpasses Tomkins for aching suspensions, while the vaulting architecture of *Tribue Domine* outdoes the model of Tallis's *Salve Intemerata* at Stile Antico's spacious *Tactus*. By contrast, *Mass For Four Voices* is lovingly shaped, as if overheard, yet marked by text-led flurries of defiance. *Turn Our Captivity* is sung as a one-per-part madrigal of wounded faith. If Byrd is just a name to you, then start here. *PQ*

Sound Quality: 90%

0 - - - - - - - - 100

CHIAROSCURO QUARTET

Mozart: 'Prussian' Quartets, K575, K589 & K590

BIS BIS2558 (SACD; downloads to 96kHz/24-bit resolution)

Chiaroscuro imbue this trio of perennially underrated masterpieces from 1789-90 with an unhurried spirit of lateness and retrospection. Only diehard Amadeus Qt. fans will resist their autumnal tints on a base of pure tone: one of many colouristic sleights of imagination is the viola-led opening to K589(ii) like an offstage horn. Minuets and trios bring high rhetoric and sudden contrasts. The 86m playing time is largely occupied by taking all the repeats in K590 so that it takes on *Jupiter*-like dimensions, and each time around they find something new and often unexpected but never un-Mozartian, especially the grave and then ecstatically flowering *Andante*. *PQ*

Sound Quality: 85%

0 - - - - - - - - 100

MUNICH PHIL./ZUBIN MEHTA

R Strauss: Symphonia Domestica

Münchner Philh. 5452356035 (downloads to 96kHz/24-bit res)

You'd think one of Strauss's spiritual homes would get the name of one of his major works right (see above), but never mind: this is Mehta's fourth *Symphonia Domestica* on record, and his finest. The LAPO [Decca] was brisk and flashy, BPO [Sony] and LPO [LPO live] were let down by the engineering. The Munich PO play their hearts out for their nonagenarian chief emeritus. Perhaps the hero's initial return home is more sluggish than careworn, but the heat soon rises with the fiery arrival of his wife, and never lets up. Mehta builds the love scene gloriously; the finale more patiently, teasing out every polyphonic twist and turn and keeping the brass on a tight leash. *PQ*

Sound Quality: 80%

0 - - - - - - - - 100

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Barry Fox
Technology journalist
Barry Fox trained in electronics with the RAF and worked as a patent agent, but he gave that up to enter journalism. He is one of the world's top technology writers

Bring it all back

Reports of vinyl sales outstripping CD don't tell the whole story, says **Barry Fox,** but the strength of the analogue format does make him wonder what the marketeers have in store for us next

The *Guardian* newspaper made its own news at the end of last year with an eye-catching story headlined 'UK Vinyl Sales Past CDs For The First Time In 35 Years'. The story was picked up and quoted as yet more evidence that clinically cold CD is dead and warm analogue vinyl is the future – with, of course, no reminder that new LPs are cut from digital masters and often sent around the house as a digital stream or bit-ripped to a smartphone. All with the added bonus of inner groove distortion. Whatever turns you on.

Personally I find statistics a turn-off. Proselytisers can use them to prove more or less anything they want to prove. But in the case of vinyl sales overtaking CD it's worth taking a look at the back story [see PM's Welcome page, *HFN* Feb '23].

ABOVE: Ad for the original Sound Burger from 1983 and (right) the relaunched player, which Audio-Technica says will return this Spring after it sold out on release in November 2022

DAMNED STATISTICS

The BPI, trade body for the UK record industry, and the Entertainment Retailers Association (ERA), which represents sellers of music, video, DVD and computer games, had both released separate but overlapping statistics.

The BPI reported 'annual growth of 4.3% in the UK's recorded music consumption', with the total number of audio streams reaching nearly 160 billion(!) along with 'sales of vinyl up for a 15th consecutive year.' The ERA echoed that the main growth driver was streaming from services such as Spotify, YouTube, Amazon and Apple. Overall, streaming revenues grew 5% while vinyl album sales grew 11% to £150.5m and CD album sales fell 17.4% to £124m.

So, the ERA very reasonably concluded, vinyl outsold CD for the first time since 1987. But that's when you are looking at cash value, rather than numbers of discs sold. Both the BPI and ERA figures also show that more than twice as many CDs were sold as vinyl albums last year. CDs, on average, retail for less than a tenner, while vinyl albums average around £24. If you work in value terms, then it's true; vinyl is now outperforming CD for the first time since the late 1980s. That's where the headline news came from.

> 'More CDs were sold than vinyl albums last year'

Personally I love the way the vinyl resurgence reinforces what many people said when CD was first introduced. A 12in sleeve is a wonderful palette for artwork and sleeve information in text that is large enough to read without a magnifying glass. Having less space for words and pictures gave the music industry a wonderful excuse to cut corners and save money. The advent of streaming created a glorious opportunity to offer no artwork and no information whatsoever.

READY FOR LIFT OFF

Where do we go from here? Well for starters we haven't yet seen any significant exploitation of the need for vinyl disc cleaning and anti-static gadgets, gismos and potions. We've seen no real marketing of compression racks that keep stored discs flat. There's been no real push yet on auto-lift mechanisms that raise the stylus at the end of a side; or smart turntables, such as the innovative Technics SL-10 [*HFN* Apr '19], which debuted in late 1979 when CD was readying for launch. Optical sensors let it make an LP behave more like a CD, with automated stylus drop and lift.

WHAT'S PAST IS PROLOGUE

Audio-Technica has just brought back the Sound Burger portable turntable – four decades after its original debut. There was once an in-car 45rpm EP player. Maybe that is also due for a re-launch.

Perhaps we will now see the unveiling of an autochanger which lets vinyl lovers pile a stack of LPs on a spindle for auto drop at the end of a side. This will create a wonderful new opportunity for electronic gadgetry that muffles the surface noise caused by disc slipping and scratching. AI anti-click and pop electronics will disguise the unhappy result of dropping the stylus mid track after one too many drinks.

As we revel in nostalgia, the options available for making money from giant steps backwards are endless. Perhaps the time is coming to also bring back AM radio for rock, analogue faxes, acoustic couplers and dial-up modems.

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Barry Willis
Journalist for top American audio-video publications
While his main interest is high-end audio, Barry Willis also writes about the culinary industry, visual art and theatre for a huge variety of US newspapers and magazines

A mission of mercy

Barry Willis is reminded that setting up a turntable can be daunting to a novice user, and even once everything is running as it should you can't always rely on a pitch-perfect performance

Early this past winter, I went on a mission of mercy for a friend I'll call Jackson. Recently married and happily ensconced in a new home, Jackson had bought a near-mint pair of electrostatic loudspeakers, a more recent integrated amplifier, and a 1980s-era Sonographe SG-3 turntable. A suspended-subchassis, belt-driven design with AC motor, the SG-3 deck was available with a wide choice of tonearms. Novel materials, for the time, included a polymer platter and motor pulley, and PTFE-impregnated 'Turcite' bearing cup.

RIGHT: The Sonographe SG-3 turntable brought back into service by the author. A suspended-subchassis design, the SG-3 boasted a 'high density' polymer platter and a bearing cup fashioned from Turcite

CALL TO ARMS

Jackson had set up his speakers and amp properly, but having come of age in the digital era, was baffled by the turntable. He was convinced it needed a new arm. I agreed to examine it before he made a rash decision, so packed up a tool kit with everything that might be needed – voltmeter, pliers, screwdrivers, hex wrenches, lubricants and cleaners, plus my ultra-reliable Dennesen geometric alignment protractor, an indispensable tool for properly setting up arms and cartridges.

My friend's misgivings about the turntable were understandable but were mostly beginner's panic. The table was in great cosmetic condition, but had been badly neglected. The platter was dragging on the plinth, and the arm had bottomed out against its mount. Nothing serious, but seriously daunting for a newbie.

I claimed a corner of the kitchen island as a workstation while Jackson's wife Stacie prepared a scrumptious dinner. Tuning the suspension on the turntable was a joy. Three recessed hex-head bolts around the platter's perimeter let you adjust both the platter's height from the plinth, and to make it 'piston' properly at as low a rate as you can achieve.

> 'Tuning the suspension on the turntable was a joy'

It's a brilliant design, one that doesn't require the repetitive remove-and-replace-the-platter guesswork of many other brands. Even better is the fact that there's no need to remove the bottom cover and put the turntable on a dedicated stand to reach the suspension from below. Designers of certain legendary decks could learn from it.

The bottomed-out tonearm was caused by nothing more serious than a loose set screw. The arm's pivot bearings were in fine shape, but the cartridge was badly misaligned – a wooden-bodied model I did not recognise, but which Jackson said was more valuable than the Sonographe SG-3 itself. I was very careful repositioning it in the headshell – another nod to the Dennesen protractor – and then did the final tweak of setting the tracking force and anti-skate. All standard basic procedures for one who knows turntables, but a mysterious ritual for one who doesn't.

WARPS 'N' ALL

We put the turntable back on top of Jackson's equipment rack and enjoyed some lovely streaming tunes during dinner. Then it was time for a test ride. When I arrived, Jackson had proudly shown me his growing library of classic jazz, rock, and pop LPs, but for the Sonographe SG-3's inaugural performance in his system, he'd bought a brand-new copy of Adele's latest album, *30*.

With great anticipation, he removed the wrapper from the album's jacket, pulled the record from its sleeve, and gently laid it on the Sonographe SG-3. Oooops! This new, never-played-before record was as badly warped as a corn chip fresh from the deep fat fryer. Only the inner tracks were flat enough to be playable. The record's rim was so badly misshapen that no clamp could hold it down and no arm could track it.

NO LAUGHING MATTER

It was a sadly comical moment of reality colliding headlong with expectations. Jackson had hoped for a sonic revelation but instead got one of another kind – the recognition that vinyl is inherently flawed. Over the past century its flaws prompted many ornate solutions, from pop-and-click filters to ring weights to vacuum hold-down schemes to at least one table equipped with a computerised centering system to compensate for off-centre pressings. The sheer accumulated ridiculousness of all that is what drove some of us away from the format. It's a lesson others have yet to learn.

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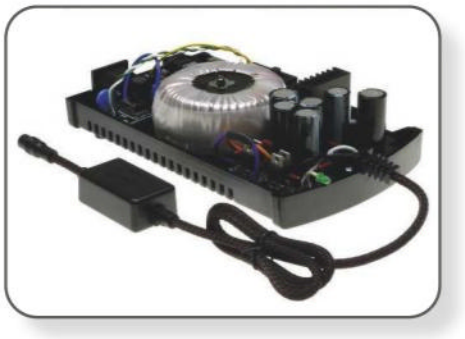

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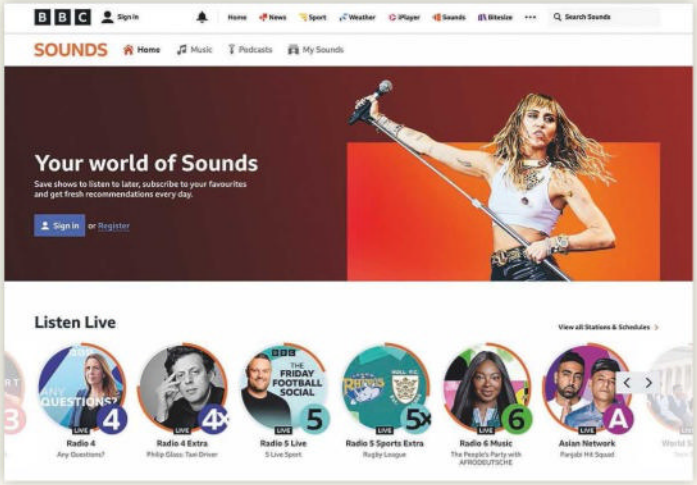
Jim Lesurf
Science Journalist
Jim Lesurf has spent a lifetime in audio, both as an engineer at UK hi-fi company Armstrong and reader in Physics and Electronics at St Andrew's University

Levelling up

Tired of reaching for the volume control while listening to the BBC's radio and podcast output, **Jim Lesurf** wonders if attention to audio detail at the corporation is what it once was

Over the years I've chatted with various people at the BBC about aspects of the corporation's audio output and systems. They've always been very helpful and knowledgeable, and have happily passed me on to others when unable to answer questions. Furthermore, the sound quality via routes such as BBC Sounds 320kbps stream for, say, Radio 3 concerts, remains very high, avoiding the 'pumped up' effect that seems to affect many commercial stations. BBC Radio 3 FM applies level adjustments with care, and overall BBC Sounds offers great sound. However more recently I've noticed two worrying BBC trends.



RIGHT: BBC Sounds, which launched in 2018, allowed the corporation to shut down its iPlayer Radio service the following year. Content mixes live radio with podcasts and extended versions of broadcast material

RADIO GA-GA

The first is that when I now email someone at the BBC the chances are that I receive no reply at all, not even an acknowledgement or bounce. This leaves me wondering whether they've moved on internally, and so changed their email address, or have simply left the BBC – either because they no longer were happy or were made redundant. Unfortunately, getting no reply doesn't answer these questions. But along with this I've also noticed something else.

> 'Has the BBC lost many of its established engineers?'

Much of my BBC radio listening is via its app's 320kbps AAC output. Radio 3's output has remained excellent, but increasingly, I'm finding significant inconsistencies in the sound levels for Radio 4. This is – almost literally! – deafeningly obvious at times when I listen to one programme right after another. More than once I've had to leap to the volume control and wind down the painfully loud start of a programme that has a sound level way above that of the one which has just ended.

In addition, it is quite common for a streamed/podcasted version to be extended as it doesn't have to fit into a rigid broadcast timeslot. These are often excellent and well worth hearing, but can include an added 'top' and/or 'tail' that tell you it's a BBC podcast, and may even spend time promoting or playing an excerpt from some other programme you 'might like'. In general, such extra information is useful, but the top or tail can also irritate as it has been set at a far higher (or rarely, lower) sound level than the main programme it is glued onto! The result can be alarming at times and causes me to do yet another rush to the volume control.

A STING IN THE TAIL

Now, as annoying as I find this, when put in the context of my discovery that the BBC people I've known to be helpful in the past appear to have vanished, it raises a more basic concern in my mind. Has the corporation lost many of its established audio engineers/producers who knew how to set consistent sound levels? Have they been made 'redundant', because so much of what is broadcast is now outsourced one way or another?

That could explain the above as all being symptoms of a more systematic ailment at the Beeb. Many of the people making Radio 4 programmes now may have no easy way of ensuring that they are 'on the level', so to speak, and producing content that is at the same perceived level as preceding and following programmes. So they just make what seems best for them... and then someone else adds a 'top and tail' made by someone else at a different level. What we're left with is still excellent content, but content that can be annoying to deal with when played on a good system.

IS IT JUST ME?

Of course, the 'top and tail' add-ons won't be transmitted via FM/DAB/DVB broadcasting, so they may not be noticed via those routes. And I suspect that many people who are not hi-fi enthusiasts, who listen to the BBC's radio/podcast output via an affordable smart speaker or mobile phone, might not notice these up-and-down levels because they are receiving poor audio in the first place. There was an old saying that went: 'Will the last engineer to leave please switch off the lights?'. But on radio, of course, we won't notice if they forget...

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Peter Quantrill
Music Journalist
Peter Quantrill has been writing about music for magazines and record labels for 30 years. When not hunched over a CD player, he'll be at a concert, or the cricket

One *Ring* to rule them all?

It's time to forget our pursuit of the definitive recording, says **Peter Quantrill**. Comparisons make us feel clever and show off our knowledge, but don't get us to the heart of the music

We love to catalogue, and we love to compare. In the world of classical music, writers like me would soon be out of a job without readers who themselves want to accumulate recordings, stack them up and then rate them against each other.

That the very nature of musical creation and performance resists classification in this way becomes irrelevant. Composers and musicians are always seeking to raise their previous standards – and the element of novelty often spurs them to go one better than their rivals – but the solitary nature of composing music, and the collective nature of making it, both defy the kind of 'Brendel's *Hammerklavier* is better than Pollini's' A/B which becomes the stock in trade of much classical-music journalism.

ABOVE: A 1960s pressing of the first stereo *Das Rheingold* (left) on the London label – a true classic – and (right) the latest Decca remastering for LP, which arrived in 2022 on 180g vinyl

DEFINITELY MAYBE

Such comparisons made more sense when records themselves were precious artefacts. The final drops of commercial juice have now been squeezed from a celebrated golden apple of the recording industry, Solti's *Ring* cycle on Decca. The approved tapes have been remastered one last time, before they crumble into magnetic dust, packaged up into CDs and LPs and Blu-rays, and *accoutred* with the high-spec, gold-embossed hardback books that go some way to justifying a 'reassuringly expensive' price tag – north of £100 for three of the operas. The price itself is surely set to impress on both old and new listeners to the cycle that this is a landmark of recording history: the definition of a 'definitive' recording.

> 'Much of my music fits on a handful of hard drives'

Is it worth the outlay? That's up to you. If I could only keep a single version of Wagner's cycle on record, the Solti *Ring* wouldn't feature in my top five. But no one will (I hope) pin me to a wall and demand I dispose of the others, not least because now that as much of my music fits on a handful of hard drives as it does on shelves of black vinyl and silver discs, the space required to house them will never again be a constraint.

In any case, a streaming service subscription affords me instant access to another 50 *Ring* cycles. At a stroke, the pressure to pick a single one is relieved. And so, I would argue, has the notion of the definitive recording finally outlived its usefulness. We will always continue to compare, and prefer, in a realm of artistic appreciation where such observations often disguise the lack of sustained effort needed to engage in serious contemplation of the art itself.

Even if we lack the critical sensitivity of a great writer on voices such as J B Steane, or in our own time Anna Picard, it is much easier for most of us to set Nilsson's Immolation Scene besides (say) Linda Watson's and to yield to exactly the kind of missing-the-wood-for-the-trees 'appreciation' which Wagner himself satirised with the character of Beckmesser in *Die Meistersinger*.

To bring my argument up to date: Sir András Schiff's new Bach album on ECM ends with the Chromatic Fantasia and Fugue, in a performance of utter singularity, electrically charged with a frisson which must be akin to what Bach felt when he wrote it. Does that make it definitive? No way. The sound of the clavichord – poky, uneven, twangy – will probably put off as many listeners as it draws in. But I will never hear the piece again without Schiff's rhetorical flourishes resounding in the mind's ear.

DUSTED OFF

Similarly, I recently stumbled across Fritz Neumeyer's 1953 account of the Sonata K331, on a fortepiano apparently once in Mozart's possession. By modern standards of tuning, the instrument itself has barely had more than the dust wiped from its keys, and Neumeyer really does hammer that *klavier* at points. But the sense of the piece in time – Mozart's own, and the recording's too – is vivid. Let's set aside our quest for the 'best' recordings of anything, and appreciate them for what their creators always say they are: no more than a snapshot in time.

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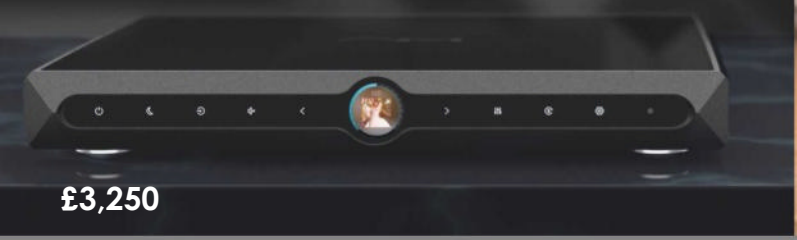

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Steve Harris
Contributor
Steve Harris edited *Hi-Fi News* between 1986 and 2005. He loves jazz, blues music, vinyl and vintage hi-fi and anything that makes good music come to life

Worth the wait

Steve Harris met musician Rebecca Nash to find out why she believes vinyl is 'special', and how she approaches the mastering process. Now he just needs the double LP to actually arrive

As the vinyl boom continues, the big problem for labels, distributors and artists is the gap between supply and demand, causing ever-longer lead times. And it's harder than ever for labels or artists to have their vinyl out when they want it.

Here's one example. *Redefining Element 78*, from pianist, composer and bandleader Rebecca Nash [*HFN* Mar '23] was released on CD and digitally in early January by Whirlwind Recordings [WR4796]. But when I spoke to Rebecca soon after, she still didn't have a release date for the double-LP vinyl version, and was simply hoping it would be out in time to tie in with her tour dates in April 2023.

ABOVE: Rebecca Nash in the studio with singer/composer Sara Colman, with whom she has recorded *Ribbons*, and (right) still awaiting a vinyl release – Nash's *Redefining Element 78*

WARM WELCOME

'Vinyl feels like a special way of presenting your music', she tells me. 'It seems warmer, and it feels more human to me. And I certainly listen to music in a different way when I'm checking something out online, as opposed to if I was to sit down with a record and listen through from beginning to end.'

Rebecca's piano and keyboards have been heard on recordings with Dee Byrne's Entropi and a band led by singer/composer Sara Colman. A duo album with Colman, *Ribbons*, should arrive later this year. The first recording under her own name (apart from an earlier duo with Dutch jazz singer Rosalie Genay) was *Peaceful King* with her band Atlas, released by Whirlwind in 2019 on CD [WR4748] and vinyl.

'I just love the fact that Whirlwind puts out everything on vinyl', she says, 'but also I do quite like a produced sound... the mixes that I've gone for are quite – not overly – produced, but I do like the bandstand as close as possible'.

Redefining Element 78 on vinyl needed to be a double album, because the music ran to 54 minutes and it was a suite of pieces that really couldn't be shortened or shifted around. When I talked to Rebecca, she hadn't yet heard the finished LP, but had listened to the master that it would be cut from.

> '"I just want you to imagine there's a tiny wizard..."'

MASTER AT WORK

Which brings us to the mysterious business of vinyl mastering. As with *Peaceful King*, the mastering engineer was Peter Beckmann, whose name seems to crop up on so many good-sounding albums. 'Peter does different masters for the CD and the vinyl. He's a complete genius. It feels like he takes every single element and just makes it better', says Rebecca.

'I went and sat in the studio with him when we did *Peaceful King* and the difference in the mixes when they'd been mastered was pretty dramatic. You could really, really hear it. It was almost like everything came into clearer focus and it came to life even more.

'This time I wasn't with him, and I know that he likes to have notes for each track of where you're aiming towards, or just anything that seems relevant to you. I remember saying for "Platinum 1", "crashy, bassy, cymbally, almost trashy".

'For "Iridium 1", where there's a lot of electronics on the drums in there, and there's lots of reverb cymbals, I said to him, I just want you to imagine there's a tiny wizard that's just throwing flashes of drums around. And he just brought that out in the master so well.'

And if you compare any LP with the equivalent CD and like it more, you're probably listening to, if not a different mix, then a different master, which may have been done with insight and skill by, er, a master, like Beckmann.

OLD MEETS NEW

We'll often prefer the 'analogue' sound of vinyl even when, as is nearly always the case and has been for at least the last 20 years, it's been mastered from a digital source. Logically, what we're hearing can *only* be a degradation.

Meanwhile, some studios now even add some 'analogue quality' by dubbing the digital master onto an analogue tape recorder. But is this what we really want? The lead times for vinyl can be long enough these days without adding even more to the production chain!

Sound Off!

Send in your views to: Sound Off, Hi-Fi News, AVTech Media Ltd, Safeship Fulfilment Ltd, Unit A, Cullet Drive, Queenborough, ME11 5JS or email your views to: letters@hifinews.com – please use 'Sound Off' in your subject field

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A QUESTION OF BALANCE

HEADPHONE AMPS AND DIFFERENTIAL SIGNALS

I have a question concerning the balanced headphone connection on my SPL Phonitor xe amp [*HFN* Jul '21]. Used with my Sennheiser HD800 S headphones [*HFN* May '16] and Marantz SA-10 SACD player [*HFN* Mar '17], the Phonitor xe produces the most satisfying audio playback I've encountered.

I'm convinced of the benefits of balanced connections between components (*eg*, between the Marantz player and the Phonitor amplifier), though I accept that connections between amps and headphones are never 'balanced' in quite the same sense. But in the case of the Phonitor xe, I gather it's also not a differential design after the input stage (despite its four-pin XLR headphone connection).

Does this make the Phonitor xe different, then, from the MOON 430HA headphone preamp/DAC [*HFN* Mar '15], which is said to be 'fully balanced'? In any event, I still happen to think that the Phonitor xe sounds at its best when using the four-pin XLR connection.

James Faulkner, Australia

ABOVE: The Sennheiser HD800 S offers unbalanced and balanced connections

Paul Miller replies: Both the MOON 430HA and SPL Phonitor xe have balanced XLR line inputs and balanced headphone outputs. But while the jury is most certainly still out on the universal superiority of balanced connections, the SPL amp with its huge 45V output is perfectly suited to driving your high 330-650ohm impedance Sennheiser HD800 S 'phones. The 12V drive of the MOON amp is better supported by more current into lower impedance loads, so it's with sub-32ohm cans that the 430HA may well have the edge over the Phonitor xe. Both are superb-sounding models, but you may just have stumbled on a perfect synergy with your SPL/Sennheiser pairing.

ABOVE: The Phonitor xe offers balanced and single-ended headphone sockets

Raising my glass

SUGGESTIONS FOR NEW TUBES AND A PHONO STAGE

I own a JR Transrotor Orion Reference FDM turntable equipped with a Tri-Planar VII Ultimate tonearm and Denon DL103D cartridge. Currently my phono stage is a Trichord Dino Mk 3 while my amplifier is a Pathos TT using Sovtek 12AX7-LPS tubes. I am thinking of upgrading these tubes, but which would be a good choice? I am also considering upgrading my phono stage and will have a budget of around £2000 for this. Which models should I be auditioning?

Ewan Stevens, via email

Ken Kessler replies: Surprising, I know, but Sovteks ain't bad. I'm lucky to have hoarded tubes decades ago, so I have ample NOS types. The good news is that 12AX7s are equivalent to ECC83s, so your choice is vast. Of current production types, JJs and Electro-Harmonix are highly regarded, but I have a soft spot for NOS Mullards and RCAs.

These cost a bundle now, so I suggest you first replace the Sovteks with less-costly valves to see if there's an audible gain. If yes, then (according to budget) search for some NOS RCAs. My go-to phono stages under £2000 are the EAT E-Glo Petit [*HFN* Feb '19] and EAR PhonoBox [*HFN* Dec '19], both between £1200-£1600. Also consider the Unison Research Simply Phono and Icon Audio PS1 MkII.

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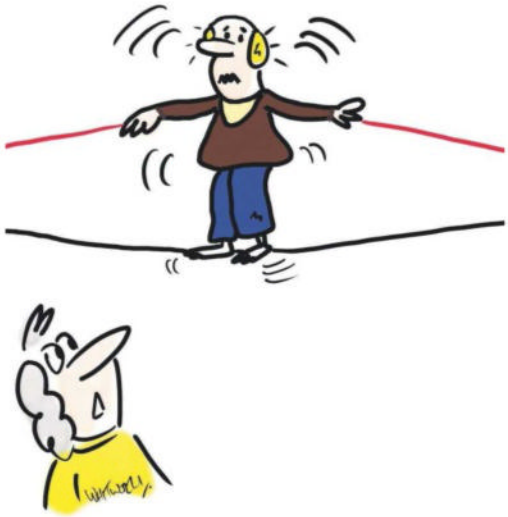
OUR HI-FI WORLD THROUGH THE EYES OF WHITWORTH



Time is of the essence

DOES A SYNCHRONOUS MOTOR SLOW WITH AGE, AND WHY NO SUITABLE PRO-JECT CABLE?

In the review of the Pro-Ject Audio Systems X8 turntable [*HFN* Mar '23], Paul Miller stated in his Lab Report that while the deck runs about 0.6% fast it is 'likely to slow, and become more accurate, with age'. I have seen similar statements before and, given that the motors in question have been synchronous designs, I am puzzled.

According to Wikipedia, a synchronous motor is 'an AC motor where the rotation of the rotor (shaft) is synchronised with the frequency of the supply current'. If that is the case, then with the passage of time the speed should not change due to varying load, the bedding-in of bearings, or the thickening of lubricants. So, I would love to know how a synchronous motor runs at anything other than its design speed.

Denis Holliday, via email

The review of the Pro-Ject Audio Systems X8 that appeared in the March issue went into detail about the company's discovery of balanced connection and how it was rolling out the technology across its range of turntables. To my mind, it's just another PR angle to shift product.

Only until deep into the review do we discover the turntable comes with a Connect-IT DIN-to-RCA cable and that you have to buy an extra cable, such as Pro-Ject's own Connect-IT CC, for balanced use. No XLR connection supplied with the deck, even though Pro-Ject now extols the virtues of balanced? Even the review described the X8 as 'the poster child for balanced connection'.

I've become used to companies 'bigging up' their next big thing and I've spent thousands of pounds over the years on hi-fi, but why brag about a specific connection method for a £2k turntable but not bother including the required cable?

Bill McCardle, via email

Paul Miller replies: Good questions both, Denis and Bill. In practice, it's been my experience that most belt-drive decks can slow very slightly with age regardless of whether they employ DC or AC motor solutions. This is probably due to a combination of the belt losing compliance and slipping very slighty on the pulley, an ageing split phase capacitor, slight increases in friction in the motor and TT bearings, reduction in magnet strength, *etc*. The point is, a TT that runs fractionally fast when new never speeds up with age (like most of us!).

As to the 'balanced' conundrum, and Pro-Ject's mission to promote vinyl at every opportunity, it's true that any TT/arm that's wired with separate L/R '-ve' connections is running 'balanced' with an MC pick-up. Pro-Ject includes a Quintet Blue with its X8 deck and a standard RCA cable to get you 'up and running' with 99% of phono stages. Upgrading to its DIN/XLR cable is only necessary when connecting to its balanced input Phono Box S3 B [*HFN* Sep 22]. If other brands are prompted to offer balanced phono preamps, then Pro-Ject's latest vinyl mission can be judged a success in promoting choice.

ABOVE: Pro-Ject's X8 turntable with 9cc EVO arm and Ortofon Quintet Blue MC cartridge

JITTERBUG
USB Filter

Can a £39 insect make all your CD files sound better than Hi-Res?

Yes and no: Using the same equipment and a quality DAC, a 24/96 file (for example) will always sound better than a CD 16/44.1 file … but, even a single JitterBug will often allow a CD file to be more musical and more emotionally stimulating than a Hi-Res file without the benefit of a JitterBug.

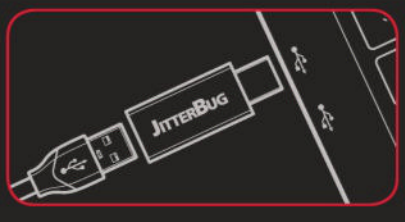
Noise is the problem. Real noise—the kind you can't hear directly. Most often, the word "noise" is used to describe tape hiss or a scratch on a record, but these sounds aren't noise; they are properly reproduced sounds that we wish weren't there.

Problem noise is essentially random, resonant or parasitic energy, which has no meaning. It can't be turned into discrete sounds, but it does compromise signal integrity and the performance of everything it touches.

JitterBug's dual-function line-conditioning circuitry greatly reduces the noise and ringing that plague *both* the data and power lines of USB ports, whether on a computer, streamer, home stereo or car audio front-panel USB input.

A single JitterBug is used in between devices (i.e., in series) as shown below. For an **additional "wow" experience,** try a second JitterBug into another USB port on the same device (such as a computer). Whether the second port is vacant, or is feeding a printer or charging a phone, JitterBug's noise-reduction ability is likely to surprise you. No, the printer won't be affected—only the audio!

While a JitterBug helps MP3s sound a lot more like music, high-sample-rate files have the most noise vulnerability. Try a JitterBug or two on all your equipment, but never more than two per USB bus. There is such a thing as too much of a good thing.



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Just reality, not greed...

HOW CAN AN AMP WITH A STANDARD PRINTED CIRCUIT AND OUTPUT TUBES COST SO MUCH?

As an advocate of SET amplifiers, for several years I used an Audion 300B Silver Night SE integrated with a pair of Lowther Fidelio speakers. This was until I built my own 300B amplifier, which I am using with a pair of Q Acoustic 3050i floorstanders. The pairing works perfectly to my ears, the 3050is delivering more bass than the Fidelios while the system overall has proved to be less temperamental.

So I read Ken Kessler's review of the Western Electric Type 91E amplifier [*HFN* Feb '23] with interest and am sorry to say that I can't fully understand why the amp has such a high price tag at just under £17k. After all, the printed circuit used is standard, as are the output transformers. Have you ever seen a 300B Luxman amp with point-to-point wiring and large transformers?

Western Electric is legendary as a brand but, as with any company, we should always be aware there are times when engineering can be made to take a backseat to marketing.

Remi Balestie, via email

ABOVE: Q Acoustics' 3050i won EISA's 'Best Buy loudspeaker' Award in 2018-19

Ken Kessler replies: Long ago, I gave up trying to understand the pricing of high-end hardware, let alone justifying it. I can't believe, after 40 years of apologising for an entire industry, I still have to deal with this. That said, what might account in part for the price of the Western Electric Type 91E are the following considerations: 1) The construction and solid machined materials are way above what we expect of high-end hardware, being as luxurious as any. 2) The 300B output valves alone account for 15% of the amplifier's retail cost. 3) The remote control and display are proprietary – not cheapo off-the-shelf generic types. Lastly, 4) the price includes cost penalties which are beyond Western Electric's or anyone else's control: swingeing 20% UK VAT, the fluctuating value of the pound vs. the dollar, and the price of shipping from the USA. That's just reality, not greed.

ABOVE: Every 91E is supplied with a matched set of Western Electric's 300B tubes

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No mention of monster MF amp

READER RUES THE ABSENCE OF THE TRI-VISTA KWP POWERHOUSE, BUT NOT THE DAYS WHEN THE FLAT EARTHERS RULED

I read the review of the Musical Fidelity Nu-Vista PRE/PAS pre/power amps in the March issue and was surprised to see that while the Michaelson Audio Chronos and MF Nu-Vista 800 amplifiers were mentioned there was no reference made to Musical Fidelity's Tri-Vista kWP [*HFN* Aug '03], subsequent kW series or the kW500 integrated [*HFN* Oct '04], all of which remain coveted and scarce. Surely the prowess of those models warranted some comment. I assume the comparison with the Nu-Vista 800 was largely due to the fact that it shares part of its name with the new amplifiers while the Chronos had nothing like the awesome power of the kW series.

On a completely different subject, Ken Kessler's recent Off The Leash columns, with their references to the 'flat earthers', have reminded me of an experience back in the early '80s after I ventured into a local hi-fi store. I went to investigate the possibility of pairing some well known active loudspeakers with my valve Quad preamp, only to be met with incredulity from the sales chap. He advised me there was no point in my pursuit as I simply didn't have the appropriate front-end to do justice to such a system! He then proceeded to demonstrate a British-made turntable playing an album that I too possessed. I was suitably unimpressed and left empty handed, never to return.

That's not to say there were those who didn't find his approach compelling. A chum of mine bought into the whole concept and embarked upon a journey of costly upgrades – until one day he relayed the news that he believed his latest upgrade delivered sonic nirvana. Knowing we both used the same MC cartridge we agreed to do a direct comparison between our respective turntables, which resulted in us both agreeing that we couldn't really hear any discernible difference. What difference there was manifested itself as a substantial dent in my friend's wallet, for which the dealer, and no doubt the manufacturer, were suitably grateful.

That form of marketing did no end of harm to the hi-fi industry and to the interest of many who felt disenfranchised by its elitist approach. In truth, as much as I have tended to stay faithful to British products there have been many tremendous Japanese components that were ignored simply because of brand snobbery, the result being that some companies eventually withdrew from the UK market altogether – thank god for a dose of Kessler!

Ultimately *HFN* is still my go-to audio journal, especially for the vinyl reviews. It's head and shoulders above all others!

Kevin Wood, via email

ABOVE: MF's Tri-Vista kWP pre and kW power amplifiers were the cover stars of *HFN* Aug '03

ABOVE: Musical Fidelity's Nu-Vista PRE (top) and Nu-Vista PAS are part of a four-box pre/power combo styled on the Nu-Vista 800 integrated from 2014. Each unit has its own external PSU

Paul Miller replies: It was nearly 20 years ago, but I well remember testing all those big MF amplifiers and have since referenced the kW550 [*HFN* Jan '07] – the kW500's successor – as one of the most powerful integrateds of all time. Moreover, delivering 700W/8ohm and 1kW/4ohm with 925W, 1.53kW, 2.2kW and 2.55kW under dynamic conditions into 8, 4, 2 and 1ohm, respectively, the kW550 was significantly *more* powerful than the new four-box PRE/PAS! However, while the kW550 was a triode/transistor hybrid it was not a *nuvistor* hybrid like the '800 that you (and we) mentioned. In practice, the Nu-Vista 800 provided a direct 'blueprint' for the PRE/PAS which has essentially the same circuit configuration, albeit 'tickled up' and boosted by bigger, separate PSUs.

Ken Kessler replies: Nothing can undo the damage inflicted on the UK hi-fi scene, nor will we ever know how many 'cancelled' brands might have flourished if more press and retailers had resisted. The comfort, though small, is that none of the main culprits in the press matter anymore, and precious few retailers are still playing the 'Buy this particular turntable even though you're here for a preamp' gambit. Ultimately, the *true* high-end brands won.

Tune in, drop out...

MORE TALES OF DISCONTENT FROM THE WORLD OF 'SMART' AUDIO

The letter from Ian McLeod headed 'Radio Interference' [*HFN* Feb '23] and the reply from Barry Fox on the way hi-fi products can 'dumb down', losing access to streams, stations and functionality, caught my attention.

Just over three years ago, I bought an all-in-one music system from a Japanese manufacturer, principally for its ability to stream Radio 3 over the Internet. Then, in August 2022, the Internet radio stopped functioning. I imagined that it was a problem with my own Internet/Wi-Fi set-up, but I was unable to resolve the issue.

Turning to Google I eventually came across an online information page from the company which stated that despite its best efforts to restart the Internet Radio vTuner network service, it had been unsuccessful and so had decided to terminate it.

This at least explained why the Internet radio no longer worked at my end, but it did not explain the nature of the problem that gave rise to the decision to stop the service. However, one can surmise the problem is a contractual rather than a technical one (perhaps involving copyright issues as Barry Fox alluded to in his article). The clues are as follows: vTuner appears to be very much alive, as proven by the continued health of my Naim streamers, which also use vTuner without recent software updates; the company now markets a Mk 2 version of my product with Internet radio from a different provider; and the vTuner website lists a number of manufacturers as being its partners, including Naim, but tellingly no mention of the maker of my system.

Philip Hurley, via email

Barry Fox replies: Welcome to the new world of auto-updating. This kind of thing will happen more and more with all 'modern' electronics. I predict that 'real' hi-fi will soon come with a pledge that it can only be updated when the user chooses to download new firmware to a USB stick and forces an update.

A rib-tickling response

WARPS, AN EXCESS OF VINYL AND THE SOUND OF A RECORD WALKING BACKWARDS

I thoroughly enjoyed Tim Jarman's review of the B&O Beogram 4002 turntable [*HFN* Apr '23] but wondered if he could explain in more detail why a warped disc placed on the platter's plastic ribs might result in the 'swishing noise' he described.

Eric Hale, via email

ABOVE: B&O's Beogram 4002 turntable showing the platter with its plastic ribs

Tim Jarman replies: If you imagine a perfectly flat record lying on the ribs and held in place at a single pressure point by the stylus then there is no issue. However, if the record is warped the effect of clamping it at a single off-centre point causes the record to rotate fractionally slower than the platter.

This is inevitable because a warp implies that the surface path around the record is longer than its basic (*eg*, flat plane) diameter at that point, the warp resulting from an excess of material present within a constrained circle (the material has to go somewhere, so it forces a flat surface to become three dimensional). What you hear is the very characteristic noise made – the 'swish' – as the record slowly 'walks' backwards across the ribs. Note that this effect is not present with turntables having soft rubber mats as there is sufficient friction to force the record round at the correct speed. The warp will instead appear as an elongated path for the stylus, giving a once-per-revolution change in replayed pitch.

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JVC UX-1 micro system

Offering all the functionality of full-sized components, this petite five-part '90s system took micro to the max, spawning imitations industry-wide. How does it sound today? Review: **Tim Jarman** Lab: **Paul Miller**

The first time I saw a JVC UX-1 it was pictured on the side of a bus. The image was part of an ad that carried the simple message 'All features, Great, and Small'. And this turned out to be true, for the UX-1 micro system had every function imaginable, sounded like 'proper' hi-fi and was tiny.

The miniaturisation of hi-fi equipment has been covered in these pages before, models such as the Sony TA-88 and ST-88 [*HFN* Apr '12], Aurex Micro System 15 [*HFN* Apr '16], Technics SL-10 [*HFN* Apr '19] and Sony D-88 [*HFN* Jul '16] all demonstrating that diminutive equipment could still deliver decent sound quality. The UX-1 probably represented the limit of what was possible, its dimensions dictated as much by the formats it played as by the size of the mechanisms needed to achieve this.

TWO-PARTY SYSTEM

The UX-1 was the first of a new generation of micro systems. Introduced in 1991, it was soon imitated across the industry. Many, if not all, of the copies were of inferior quality or less well specified, but most of the big players had a go. Since playing records was no longer a priority, the width of the UX-1 was little more than the diameter of a CD or the length of a cassette. There had, of course, been radio/cassette/CD portables before, and some of them even used detachable loudspeakers, but what made the UX-1 special was that it was built from the start as a hi-fi system. This meant no compromises had been made with regards to weight reduction or battery operation.

The main part of the system was divided into two units, carefully styled so that they could either be stacked on top of each other or placed side by side – a property that defined this new genre of equipment. The complete UX-1 package consisted of five items: the UX-RL1 CD/tuner unit, UX-RA1 cassette deck/amplifier unit, a pair of UX-B1001 speakers and the RM-RX1001 infra-red remote control. It was not intended to be a budget model so everything (bar the loudspeakers) was produced in JVC's top-tier factories in Japan.

ABOVE: 'Digital brilliance for on the go' – this German flyer promoted the UX-1's compact size and extensive feature set, though it still required an AC mains connection!

STACK MACHINE

The UX-RA1 contained the power supply for the whole unit, the power amp and the cassette deck. The UX-RL1 housed the complete CD player, the tuner and preamp, plus a microprocessor controlled clock/timer. Inside, both units were stacked with multiple, densely packed PCBs, JVC's experience with portable video products providing the necessary miniature assembly techniques.

What was perhaps astonishing was how much JVC had packed in. The CD player had a motorised lid that could even be operated from the remote control. It was fully programmable and could make synchronised recordings onto

LEFT: Pictured here with the system's two units placed side by side, the UX-1 met every need of the keen listener in the early 90s

a cassette. The tuner covered the FM and MW bands, could store 30 preset stations and had a PLL (phase-locked loop) stereo decoder. The timer could be used to start any source at any time and also make timed recordings from the radio station presets. Meanwhile, the preamp offered a motorised volume knob along with proper bass and treble controls. An auxiliary line level source could also be accommodated.

As for the quality of the cassette section, this put many full-sized decks to shame. It was built around a three-motor, full-logic drive that offered track search facilities and auto reverse using a rotating head platform. The recording and replay electronics even had the necessary service adjustments for full tape calibration, should the owner wish to optimise the machine for a particular brand of tape.

LEFT: The units could also be stacked, as seen here. Arranged like this, the UX-1 is exactly the same height as its matching loudspeakers

LET'S GET ACTIVE

As for the power amp, it was IC-based and produced a claimed 11-23.5W per channel [see PM's Lab Report, p125]. This, and the substantial mains transformer which powered it, were shoehorned into the back of the UX-RA1. Compared to the sophistication of the main units, the speakers, which were made in Malaysia, were perhaps a little unremarkable. Each contained a 12cm long-throw woofer and a 5cm cone tweeter. The cabinets were ported to provide a little extra bass and could be used either standing up or laid down on one side.

> 'It was perhaps astonishing how much JVC had packed in'

Bass enhancement technologies were all the rage in the early 1990s, Sony's 'Mega Bass' being the most widely recognised. The UX-1 included JVC's 'Active Hyper Bass' mode, which was engaged using a push-button on the front of the system and worked in much the same way as the Sony implementation, the aim being to produce a bass lift at low volume levels that diminished as the music became louder. In previous generations of equipment this had been achieved with tapped volume controls linked to extra filters and the once familiar 'Loudness' button.

The trouble with this arrangement was that the depth of the effect was linked to the mechanical position of the control, not the actual signal level or its content. Both Mega Bass and Active Hyper Bass made electronic measurements of the signal as it passed through the amp and boosted the bass accordingly. As well as leading to a more pleasant effect, this also preserved the power amplifier's headroom with the result that unnecessary distortion could be avoided.

ABOVE: While the JVC UX-1 looks familiar now it was a revolutionary design at the time. The equipment had shrunk around the formats it played, with no loss in slick functionality

STILL SURPRISES

On its release in 1991 the UX-1 stood alone in the JVC catalogue. The following year saw the UX-A3 and UX-A5 micro systems launched, the former a budget version of the UX-1 with mechanical cassette controls and less power, the latter a more comprehensive model that offered more features but which had been simplified inside so as to be easier to produce. After these came the flood; it seemed like everyone was making micro hi-fi. Even B&O's Beosound Century was essentially a reworking of the JVC UX-1 concept.

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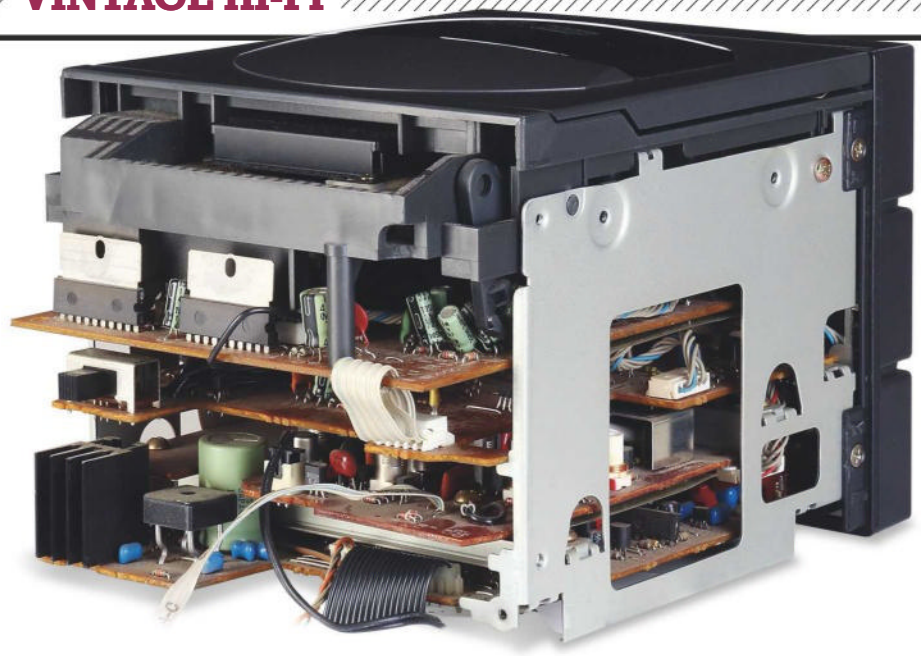


LEFT: Removing the casing shows the CD/tuner section – an impressive feat of packaging based around four layers of printed circuits

Today the UX-1 still surprises with how small it really is. It is also unusually solid, feeling well engineered and properly built. The two units are joined with a thick ribbon cable just long enough to allow side-by-side placement, though it doesn't stretch very far. There are lots of controls, but the regularly used ones are sensibly large. Programming the timer proved to be a baffling experience, but it can be done. Auto reverse means that up to two hours of recording time is available, so you need never miss BBC Radio 3's *Sunday Morning* concert again. The lower display (actually a bit of a cheat as it's one big LCD panel inside) has a 'power meter'-type readout, but this is of little practical use as it shows only the level going into the preamp. It thus shows 'full scale' all of the time, and so can't be used to gauge how much volume you have left to play with. Even the cassette deck doesn't need it as the recording level is set automatically.

TIM LISTENS

Auditioned as a whole I found that all three sources gave a broadly similar sound. I've heard better CD players and much worse cassette decks (this one is unusually good), while the tuner seemed able to pick up noise-free stereo reception on FM with nothing more than a short length of wire poked into the aerial socket.

It is the overall sound of this tiny combination that intrigues the most as it gets right down to the roots of what I think vintage hi-fi is all about. Obviously, small ported cabinets and cone tweeters are never going to produce state-of-the-art performance and the speakers are by far this system's weakest link, but the sound they deliver has an authentic quality that makes them worth persisting with. Overall, the UX-1 package has a dry and well controlled presentation that's slightly sucked out in the midband and a little papery and soft at the top. Switching in the bass boost adds a bouncy, chewy bottom end to the proceedings, which integrates surprisingly well, the operating points of the circuit seemingly being well chosen and carefully matched to the loudspeakers.

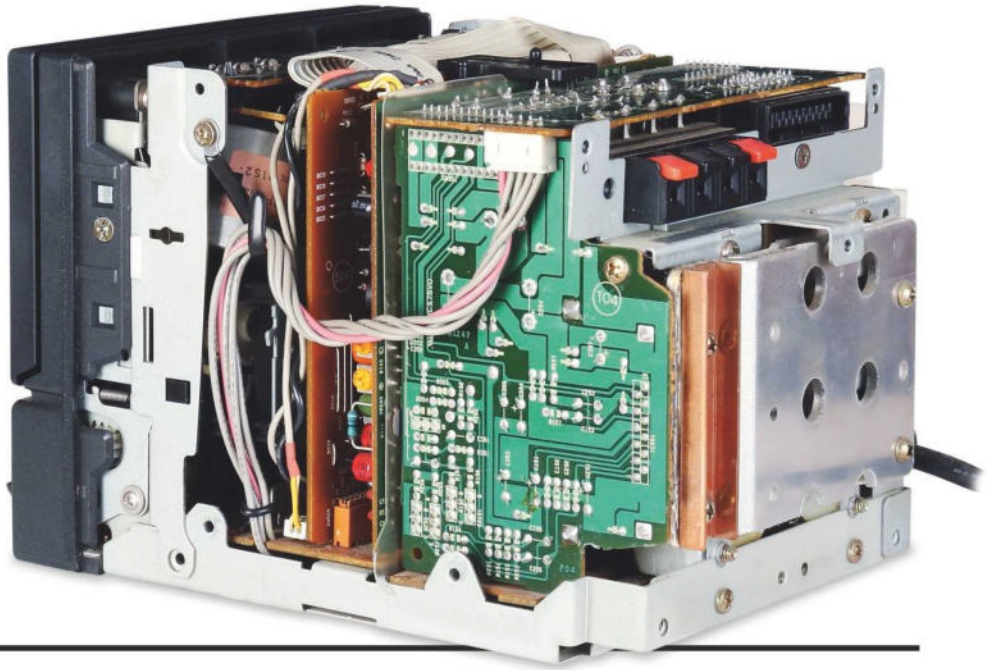
> 'It gets to the root of what vintage hi-fi is all about'

Serious listeners may turn their noses up at this, but this sound was as much a part of the early '90s music scene as glow sticks and outdoor raves. In short, it takes you back there, which is something only the best and most appealing vintage hi-fi does.

Compared to a full-sized system carefully setup in a well planned room, the UX-1 sounds obviously deficient in terms of clarity, focus and scale. However, when used at close quarters in a smaller space it makes a lot of sense. If you want to turn a box-room into an imaginary concert hall then this is a great way to do it. I was impressed by the way REM's 'Nightswimming' [*Automatic For The People*; WB 9362-45055-2] retained much of its dark and melancholic atmosphere when played through the JVC ensemble. Small units and portables can often play the basics of a tune but fail to communicate the emotion behind it, but the UX-1 is well above this level.

STRING THEORY

It was a combination of bass warmth (the next best thing to true extension, something which isn't really practical with a unit of this size) and a reasonable ability to convey upper midrange textures which I think made the difference. In particular, the string section on the REM track sounded surprisingly convincing as a result, although I've heard other systems portray the woodwind sections with a better sense of creamy richness. Those who know the album will recognise this as one of the later



RIGHT: Perhaps even more impressive is the tape/power amplifier section, which houses the cassette mechanism, mains transformer and yet more electronics in close proximity

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ABOVE: Rear view shows the umbilical ribbon cable that joins the two units, the auxiliary input and the AM loop antenna. The loudspeaker terminals are spring-clips

tracks; I found that the little JVC UX-1 is one of those fatigue-free systems on which one starts listening to the beginning of an album and ends up enjoying the entire set, even if that was not the original intention.

UP ALL NIGHT

The tuner was an addictive listen too. Even with a basic antenna, BBC Radio 3 (90.3MHz) provided clean stereo reception with a good sense of depth and space and I made a regular appointment with the *Night Tracks* programme while auditioning the UX-1. Careful positioning of the loudspeakers made it almost possible to replicate the immersive experience this broadcast's eclectic choice of material can generate when heard through full-sized equipment.

'The tuner proved to be an addictive listen too'

Is the JVC UX-1 a giant killer in the same way that the Aurex Micro System 15 was in its time? No, it doesn't come anywhere close, but I suspect that it was never intended to. It is a match for the bulk of modern alternatives though, whether they be speaker docks or other single-piece systems. It's perhaps more useful too given that it is able to play a wider variety of formats, isn't tied to a smartphone or a subscription service and can record. What's more, it's also an important part of audio history in that it can lay claim to having been widely imitated.

LEFT: JVC's RM-RX1001 handset includes tape and CD transport controls, AM/FM tuning, volume, direct track access and Aux in selection

BUYING SECONDHAND

There are still plenty of UX-1s in circulation and none are particularly expensive, so buy only the best. The most fragile part is the power output IC. This can be damaged if a whisker of wire shorts out the speaker terminals. Other common failures are the bulb behind the LCD panel and the belt for the CD door, neither of which are difficult to sort out.

As the CD player will have done the lion's share of the work be on the lookout for worn optical blocks. The JVC 'Optima' laser used is available as a pattern part but these vary in quality – you may need to try several before finding one that is satisfactory.

The cassette section is durable – unlike some it doesn't rely on the capstan motor and belt to shift the mechanism since it has its own motor and geared drive. Poor speed stability points to a worn belt or pinch rollers, but working in the tiny mechanism is not for beginners.

HI-FI NEWS VERDICT

Not only is the JVC UX-1 a serious design laid out to proper audio engineering principles but few really small systems are as versatile or as capable. True, it's probably more of a collector's piece for audio historians than a unit you'd buy for sound quality reasons alone, but it does pretty well all the same. Is it hi-fi? Just. Is it fun? Undoubtedly. Oh, and buy one with the speakers, even if you do not intend to use them.

Sound Quality: 70%

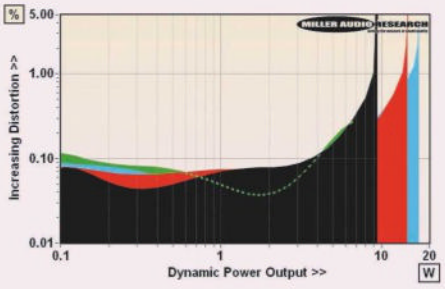
0 - - - - - - - - 100

LAB REPORT

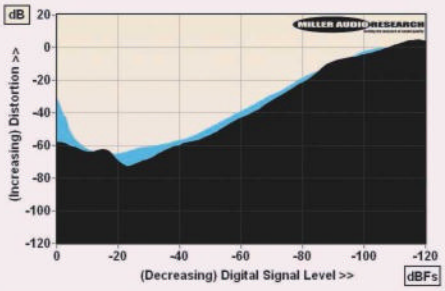
JVC UX-1 *(Vintage)*

Tested via its headphone output, and set to 2V/0dBFs, the UX-1's CD section may offer swift loading and track access but the audio performance is rather limited by the 14-bit Toshiba TD6710AF DAC and (analogue) minimum phase filter. The A-wtd S/N is just 81dB, low-level linearity is already –1dB adrift by –88dBFs while digital jitter – mainly data-induced in nature – is ~900psec. The frequency response is flat to within ±0.5dB from 100Hz-20kHz but shows a low bass roll-off amounting to –14dB/20Hz that carries through to the main amplifier outputs. JVC has included an 'Active Hyper Bass' feature that applies a +13.3dB boost at 50Hz but the response still remains –14dB down at 20Hz. While this rolled-off bass seems extreme by modern standards, it's less so when we consider the compact dimensions of the partnering UX-B1001 loudspeakers. Distortion, meanwhile, is relatively high at 0.3%/20Hz, 0.14%/1kHz and 0.9%/20kHz at maximum digital levels but reaches a minimum of 0.025% at –20dBFs [see Graph 2, below].

The partnering amplifier is rated at 2x11W/4ohm, albeit at a rather alarming 10% THD... Relaxing our standard 1% THD limit to 2% allows the UX-1 to squeeze out 2x6.5W/8ohm and 2x9W/4ohm, while there's sufficient 'headroom', and a maximum 2.9A current reserve, to accommodate 9W, 14.5W, 17W and 7W into 8, 4, 2 and 1ohm loads at up to 5% THD, respectively. I've already noted the amplifier's LF roll-off where distortion also climbs to a huge 33% (re. 0dBW/20Hz) before settling out at 0.028-0.24% from 100Hz-20kHz (re. 0dBW). Otherwise, overall gain is +23.7dB and the A-wtd S/N is only slightly below average at 83.1dB (re. 0dBW). **PM**



ABOVE: Dynamic power output vs. distortion up to 5% THD into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Max current is 2.9A



ABOVE: Distortion versus digital (CD) level over a 120dB range (1kHz, black; 20kHz, blue)

HI-FI NEWS SPECIFICATIONS

Power output (<2% THD, 8/4ohm)	6.5W / 9W
Dynamic power (<5% THD, 8/4/2/1ohm)	9W / 14.5W / 17W / 7W
Output imp. (20Hz–20kHz/100kHz)	1.35–0.39ohm / 0.59ohm
Freq. resp. (20Hz–20kHz/100kHz, 0dBW)	–13.8dB to –1.2dB/–11.9dB
Digital jitter (CD)	900psec
A-wtd S/N ratio (CD/Amp)	81.1dB (0dBFs)/83.1dB (0dBW)
Distortion (CD, 0dBFs/Amp, 0dBW)	0.14-0.90% / 33-0.028%
Power consumption (Idle/2x6W output)	9W / 28W
Dimensions (WHD) / **Weight**	458x258x222mm / 9.1kg

Quad valves reinvented!

Ken Kessler brings you an exclusive subjective review of a legend reborn: the Quad II-forty mono power amplifiers and QC-twentyfour preamp

Hi-Fi News Nov 2000

Each month *HFN* will bring you an article from our vast archive of features and reviews from yesteryear

Goodness me! Two Quad scoops in one season! OK, so it's not like waking up with Kim Basinger, but I am fully aware of the privilege. When I kicked off the Quad 989 loudspeaker review [*HFN* Jul '00] I said that no other product launch since the Quad ESL-63 carried as much baggage as a new Quad speaker. But I almost forgot that for many enthusiasts, it's the Quad amplifiers rather than the company's speakers which matter most.

Even if you agree that the original ESL was/is the Greatest Hi-Fi Component Of All Time there are those who can convincingly argue that the original Quad 22/II pre/power package did as much to mark the company as one of England's finest as did the legendary speaker.

The 22/II pairing is categorically one of the finest amplifier packages to issue from a British maker during the 1950s/'60s. Moreover, Quad sold more pairs of Quad IIs than it did pairs of the original ESLs. But let's be honest; although the ESL overshadows the amplifiers for most observers, it's an historical milestone because it had no competition. The Quads have a permanent place in the tube amp pantheon, up there with the Dynaco Stereo 70 and the various Leaks, and an updated version is something that the faithful have awaited for far too long.

ABOVE: Quad's QC-twentyfour preamp with its seven input switches is pictured atop a pair of Quad II-forty power amps

MAVEN VOYAGE

Initiated by Stan Curtis, now reviving Lecson, the Quad Tube Project was conceived from the outset not to be an exercise in mere retro; it had to be a valid amp in Y2K terms, while working perfectly with the 989. Curtis hired Andy Grove, known for his work with Audio Note and

in all probability the hottest young tube-maven in the UK. His brief was to create the modern equivalents of the Quad 22 and Quad II, with Peter Walker's circuit used as a starting point. While retaining a topological link to the originals, the company wanted to address the most important difference between old and new, and that's modern-day power requirements.

Clearly, the 15W of the old power amplifier would not suffice, even for the Quad 989 speaker for which the II-forty was designed. Thus, while staying with two output tubes as in the original design, KT66s were changed for KT88s in the Quad II-forty. The result is a deceptively powerful amplifier, though its probable rating is only 40W. There's every reason to believe this specification is conservative; for a brace of KT88s is usually expected to deliver 50W.

Those who know vintage valve gear will be quick to remind you that the old Quad valve amps were run near to the components' limits, and so the company wanted to avoid replicating the older amps' fragility. To this end they added 'a more robust power supply' using a 5U4G rectifier valve, while the input valves are now 6SH7S instead of the original EF86s. Accompanying the tube change is a new chassis that retains the earlier layout and styling, but which has been increased in size to 387x178mm in order to house the larger components.

On the Quad II-forty, the musical note logo and the name are present on one of the long sides, while the other side, evidently the back, contains an on/off rocker switch, gilded terminals for 4 or 8ohm speakers, a gold-plated phono input and an IEC three-pin mains input. Meanwhile, the new amps wear robust tube cages, finished in black to contrast with the lovely champagne finish instead of the battleship grey of yore.

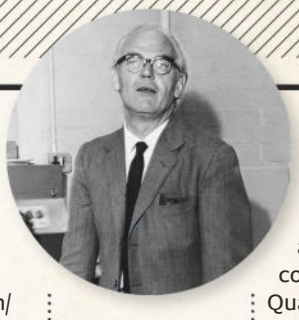
SEA CHANGE

So, too, is the QC-twentyfour related to the old Quad II preamp in concept and appearance. However, simplicity and minimalism have dominated amplifier design for the past 20 years, so gone are many of the quirky niceties that were necessities in the 1950s: multi-position filters, phono settings, direct connection for the AC source to the power amps and so on. As such, the unit offers only input switching for seven sources via relays activated by press buttons which light up to indicate status; a rotary volume control; on/off button; and a sliding balance control beneath the volume knob.

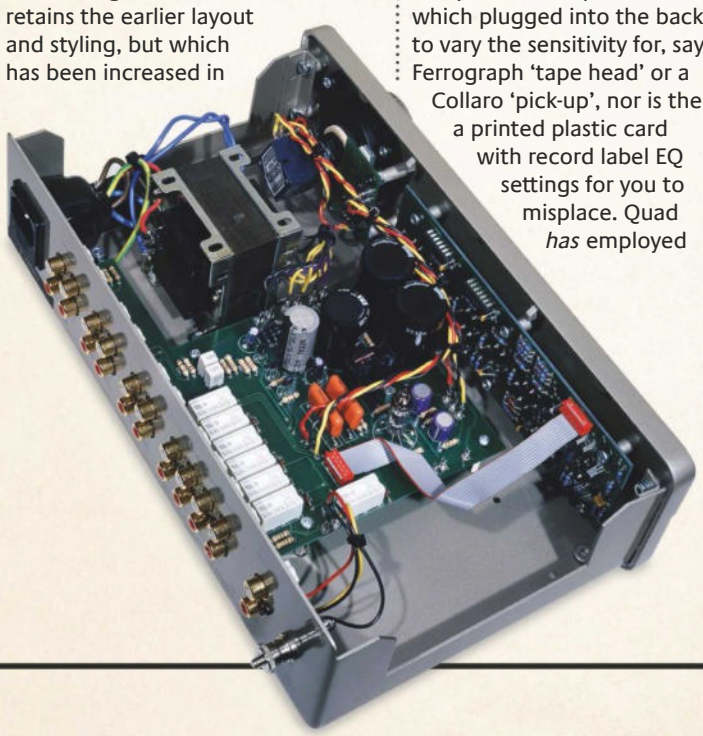
'KT66s were changed for KT88s in the Quad II-forty'

This is a sea change in Quad philosophy. Forget all about those funky little multi-pin canisters which plugged into the back to vary the sensitivity for, say, a Ferrograph 'tape head' or a Collaro 'pick-up', nor is there a printed plastic card with record label EQ settings for you to misplace. Quad *has* employed copious amounts of hardwiring and hand-soldering, with an overall build quality which, frankly, makes the older models an embarrassment. It's like comparing an MG-F with an MG-B. Quad also opted for tubes which should provide long life, estimating over 6000 hours for the KT88s, while the 6SH7S should enjoy a span of 15,000 hours; the lone 6111WA double-triode used in the QC24 is a special military valve with a lifetime of 60,000 to 100,000 hours.

There were no operational restrictions to speak of, other than a request to keep cable lengths down to 10ft or less. I had already enjoyed fantastic Quad-run demos with the new valve electronics driving a pair of 989s and the disappearing act made by the speakers in the factory demo room was nothing short of astonishing. So I fed the QC-twentyfour/II-forty duo into both original ESL speakers and '63s. All that really accomplished was confirmation of the amp's suitability for Huntingdon-made electrostatics, while showing that the brand-new combination is audibly cleaner and quieter than the grandparents.



ABOVE: Peter J Walker founded Quad in 1936. Originally called The Acoustical Manufacturing Company, the firm moved premises from London to Huntingdon in 1941. It is now part of the International Audio Group



BELOW: The underside of the Quad II forty monoblock power amplifier (right) and under the hood of the QC-twentyfour preamplifier

ODDBALL LOADS

With the Quad system inserted between a Krell KPS25SC CD player – the finest digital front-end I've used – I tried LS3/5As (magical) and MartinLogan's small hybrids, settling on Wilson Audio's WATT Puppy 6 as the final determinant. Comparisons were made with Quad II valve amps (but not the Quad II preamp, which I find too noisy by modern standards), Radford SC22/Radford STA15 and MA15, the McIntosh MC275 reissue and the Krell FPB 300. Eh? 40W vs 300W? Laugh not: the Quad II-forty is astonishingly powerful in subjective terms and fully able to handle oddball loads. It drove the WATT Puppy 6 system to truly uncomfortable levels, with the volume barely past the 9 o'clock point.

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From the very outset, it was obvious the new Quad amps would present no limitations at all to users of relatively sensitive loud speakers, regardless of perilous impedances. Hence, they never misbehaved during a fortnight of concentrated abuse. Aside from hot running, I found only one non-sonic complaint, which was a physical buzz from the cans around the transformers.

AUDIO SCULPTURE

Merely pressing on them eliminated the thrum, but placing a damper of some sort on top is an affront to the units' aesthetics which all but negates their presence as audio sculpture. Quad should find some way to eliminate this, because it's audible up to ten feet away. Nonetheless, the sound through the loudspeakers was hum-free.

As warned by Quad, the amps need running-in, the review system, hot off the assembly line, improving audibly after 100 hours. So don't be too hasty: the faithful will be so eager to collect their new Quads, rush home, and lie back to wallow in 21st century Walker/Grove magic, that the run-in period may be ignored.

Considerable are the rewards, for the new Quads behave like few other valve amplifiers. However much I cherish my Quad IIs, I only use them with Quad ESLs. The II-forty is another story entirely, especially driven by the QC-twentyfour. In a sense, it's almost like dealing with a partially dual-mono integrated amplifier, for there's nothing to be gained by mixing and matching. Quad, in fact, has emphasised this synergy by offering the package only as a complete entity; the preamp and power amps will not be sold separately. Which is as it should be: most of the biggest mismatches are preamp-to-power amp, and I have no problem with manufacturers who reel in horror at the pairing of their components with unsuitable offerings from other makes.

This is not tacit support for, say, arranged marriages, nor an indication that I believe that all companies make both great preamps and power amps. I like Krell with Krell, Nu-Vista with Nu-Vista and so on for valid reasons. Conversely, I always preferred Radford and (old) Quad power amps to their respective preamps. But in this case? It's a match made in Huntingdon.

> 'Clarinet and sax enjoyed a sheen that was delicious'

TIGHT 'N' CHUNKY

Straight to female vocals, and The Judds were there in the room, all honey-coated redneck warbling and trailer-park bass, the latter with levels of extension which confounded any tube prejudice. Yes, the KT88 – at least in original M-0 valve form – does things down below which utterly belie anti-valve hysteria, sounding all solid and tight and chunky. But to find such control and clout from a mere brace of KT88s from a British firm that came as close to death as Rover – hell!

On through some lean acoustic material by Eric Bibb, lush 1950s vocals courtesy of Dino; a wander through contemporary studio trickery care of Melanie C; and power pop by The Wondermints – the new Quad amplifiers have a personality all of their own, which is gonna aggravate the straight-wire-with-gain zealots. There's precision aplenty, along with enough air, space and three-dimensionality to suggest that a high-end Yank designer sneaked their way into the Quad HQ in the wee hours.

BLOOMIN' LOVELY

There's also a warmth I thought I'd never hear again after the last original KT66 gave up the ghost; that elusive lushness which keeps anachrophiles from parting with their Quad IIs. I don't know how Grove did it, but he managed to make a Thoroughly Modern Millie, but with a pair of bloomers under her flapper dress. As you'd expect, this warmth is beneficial to vocals, but also provided a delicious sheen to clarinet and sax, and a rich ⟳

ABOVE: A later iteration of the Quad II amp, which was launched in 1953 and continued in production until 1970. All samples left the factory with the output transformer's impedance set to complement a 15ohm load

THE TECHNOLOGY

Quad forgot to tell me the QC-twentyfour is a line-level-only device, the input marked 'phono' awaiting an optional plug-in module or a standalone stage. The owner's manual was 'still at the printers' at the time of review, and the rough press release I was given did say that a moving-magnet stage was fitted. It turns out that discussions are underway for a possible 2001 release of a dedicated phono section, with all sorts of configurations being short-listed at the time of writing.

I'm hoping for an all-tube unit housed in the same case as the 'twentyfour that's been mooted as a 'no compromise' unit with MM and MC capability, and a variety of user-applicable loadings.

I would entreat those with an interest in the new gear to let the company know their intentions immediately: if there's little indication that a full-blown phono section would have any real sales potential we could get stuck with a solid-state stop-gap. The new unit could have a life of its own, for there's a dearth of good, all-tube phono stages between the affordable EAR 834P and the rhino-bucks Audio Research Reference Phono.

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auditions

Quad valves reinvented!

Our exclusive subjective review of a legend reborn: the Quad II-forty mono power amps and QC-twentyfour pre-amp

woodiness to piano. With Louis Prima's 'Just A Gigolo', the rolling opening possessed a new swing and flow, yet the choppy attack in 'Buona Sera' remained crisp. A taste of alt.country from Slobberbone, the juggernaut of Alabama 3's 'Woke Up This Morning'... every genre seemed to benefit while nothing seemed to suffer. In part, I'm sure it gets back to the logic-defying power of the II-forty and the concomitant dynamic range; the units never seemed to run out of juice – no compression, no squashing, no wheezing. And, for once, guys, I wasn't playing it softly. The new Quad amps merely rise to the occasion. Any occasion.

BEST IN CLASS

Quad has succeeded where few of hi-fi's gamblers dare. The company has followed the ESL-989 with not just a worthy amplifier, but with a silent, smooth and precise control unit as well. Better still it has stayed true to the *ur*-Quad while making an apology-free alternative for current users.

Because the units are hand-built and the company doesn't expect to make more than 1000 sets a year, Quad anticipates a waiting-list scenario. But it has also stated that these are not limited editions, and will remain available indefinitely, so there's certainly no need to panic. When demand stops, so will production. One can, if so predisposed, posit this to be the current management's apology for the Celebration Quad II from 1996 [see boxout below].

Factor out nostalgia. Forget the miracle of Quad Making Valve Amps In The 21st Century. Look at the Quad units in terms of a current pre/power tube combination. Then look at the opposition. Now factor in gorgeous styling, superb build quality, perfect ergonomics, ample grunt, genuine heritage and the kind of sound which allows valve enthusiasts to show two fingers to transistor users. Suddenly, you sense a virtue found in Quad products made prior to the 405: unparalleled cost-to-performance ratio.

'It's the best all-tube rig I can think of below £3500'

The preamp sounds like what I'd expect of a £2500 unit. The power amps? The best current all-tube rig I can think of below £3500, which is what you'd pay for the heartwarming Audio Research VT50. Eyes closed, then, and this system says to me, '£6000'. Which is what the old management wanted just for the Celebration Quad II alone. At £3995 for the QC-twentyfour and the Quad II-forty, the waiting list is already thrice around the block.

ABOVE: Original pages from the Nov '00 issue of *HFN* in which Ken Kessler took delivery of Quad's II-forty monoblock and matching QC-twentyfour preamp, modern equivalents of the original Quad 22 and Quad II, with Peter Walker's circuit used as a starting point

THE 'OTHER' REISSUE

It would be remiss of me to ignore the reissue of the Quad II during the company's 'Dark Years'. For all of my bitterness associated with the Celebration Quad II of 1996, the justifiable complaint beyond the ghastly gilding was the price: a hefty £6000. Otherwise, any objections one might have about this iteration of the amp would be deftly countered with two key facts: (1) 594 of the 600 sets sold, and (2) the units did sound good. But emotions, politics and love for Peter Walker's creations aside, that golden anomaly was a replica of an original. The amps reviewed here represent evolutionary change, in the way the new Jaguar S-Type recalls the Mk II but is not a facsimile of it.

Also in *HFN* this month in 2000

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Is phase distortion inaudible or one of the most vital factors in speaker sound? We investigate.

NAIM NBL
We hear Naim's 'no-box speaker' – a slimmer sibling of the DBL.

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Six essential combinations in a test full of surprises: the Linn Kolektor/LK140, Musical Fidelity X-P100/X-S100, Myryad MP100/MA240, NAD C160/218THX, Technics SU-C1010/SE-A1010, and Talk Electronics Hurricane 2.1/Tornado 2.1.

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REFERENCE MODEL FOUR-TWO
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Flat-panel speaker technology comes of age with Mission's new stereo-to-AV NXT package.

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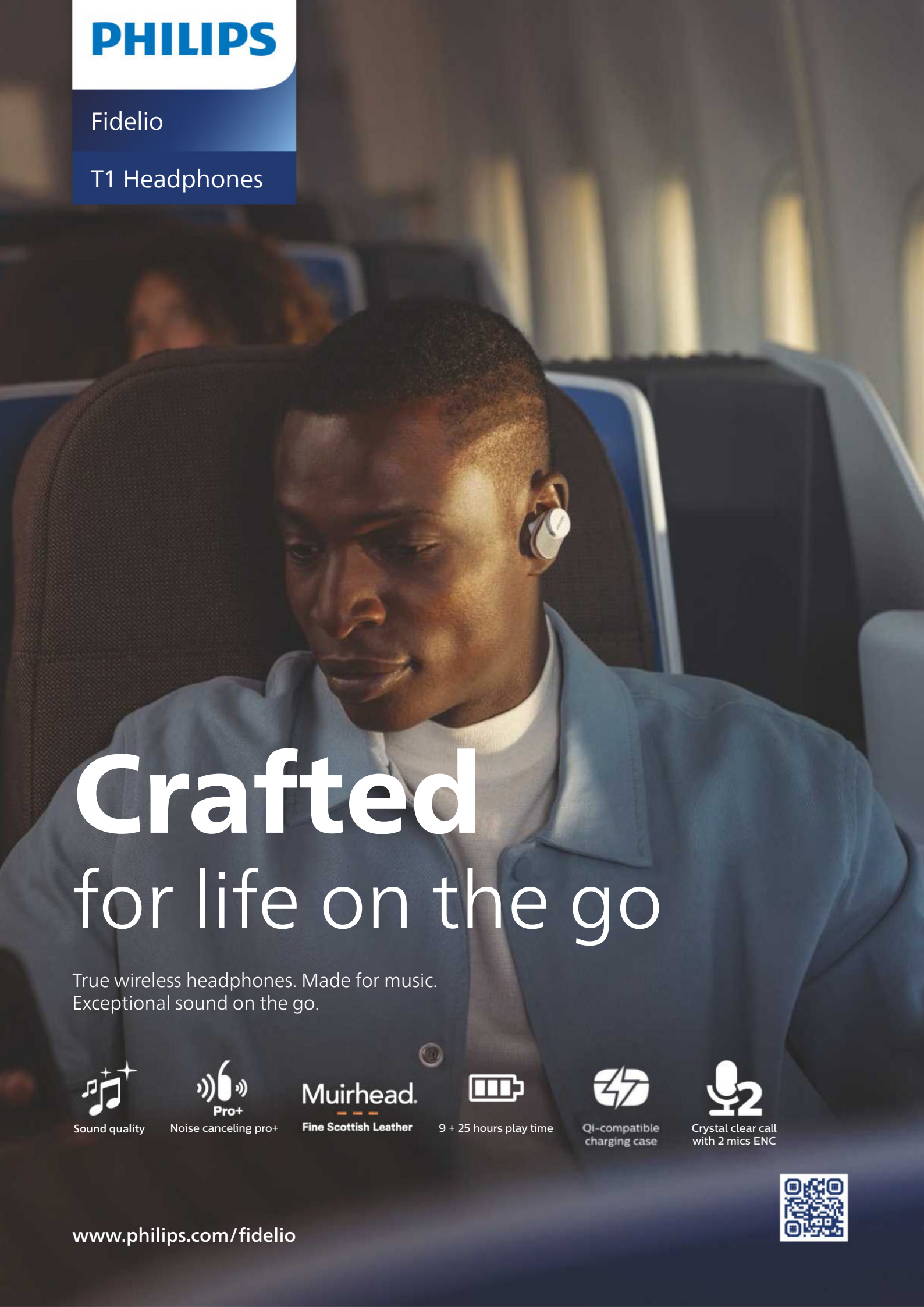
The company's 1-bit digital amplifier promises simplicity, efficiency, and SACD-compatible sound quality. But is this really the amp of the future?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REGA RP3 with Elys 2 cartridge, boxed, £300. Cash on collection only. Tel: 07834 898617

11. SYSTEMS

PRO-JECT X1 turntable with Ortofon Quintet Blue cartridge, £360. Lehmannaudio Black Cube SE preamp, £300. Audiolab M-DAC+, £250. Audiolab 6000CDT, £750. Arcam FMJ amplifier, £150. Pro-Ject RPM1 turntable with cartridge, £100. B&W 606 speakers with stands, £200. Two pairs of Tellurium Black cables with XLRs, £100 each. Tel: 07375 111135

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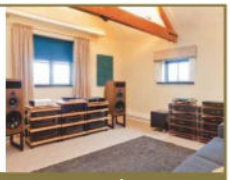

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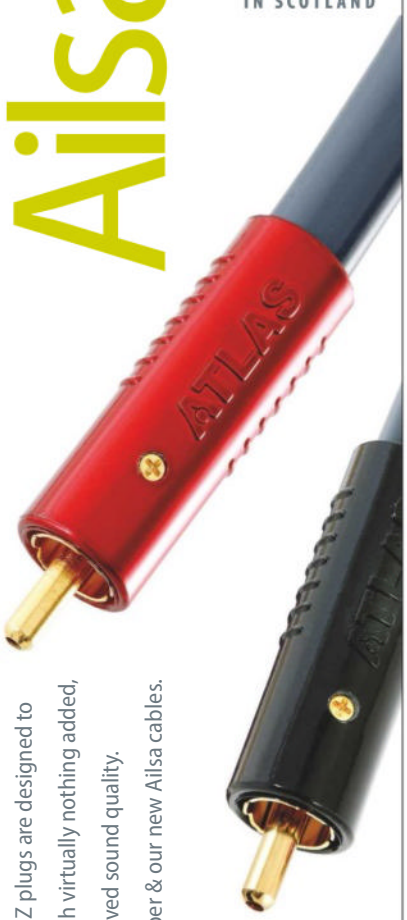

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OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

Ken Kessler delves into his big box of vintage test CDs and welcomes a new arrival in SACD format

During my perpetual task of downsizing and reorganising, I came across a box of CDs, all of them demo or test discs. I thought I had filed them with those I use regularly – especially the *Hi-Fi News* test CDs – but no, they had been put in storage and I was kicking myself for not accessing them more often. By coincidence? The arrival of a fresh setup SACD from PS Audio...

REVIVALIST ENTHUSIASM

It wasn't its first demo disc, so it is starting to look like PS Audio might be single-handedly trying to revive this neglected genre. In 2020 PS Audio produced a fat book, *The Stereo*, with an accompanying SACD: *The Audiophile: Reference Disc Volume 1* [Octave Records OCT0004]. The book and disc presented an overview to hi-fi setup, the SACD containing signals for channel identification, phase (polarity), and other elements for optimising a system, using music with detailed annotations to guide the listener on what they should hear.

It was, as far as I can tell, the first new demo disc in a decade. What digital test discs (CD or SACD) offered over test *LPs* – of which I also have a few dozen – was consistency in that you weren't in doubt about optimal CD playback, as opposed to 1) arm, cartridge and turntable setup and 2) wear on an LP or stylus. As such, CDs and SACDs, for example, would deliver a perfect 1kHz tone, crucial if you were also using test equipment to aid your setup.

BURNING ISSUE

Be warned: you can't just order those discs, nearly all of which are 20 years older or more. Few had catalogue numbers. If you want 'em, you will need to turn to eBay or some other online source, so get ready to Google. I have no idea what they may fetch now, but their worth remains high. While it was likely that every one of the vintage test CDs contained similar rosters of basics – channel ID, balance, sweeps, white and pink noise, *etc* – all had their own virtues and some were, surprisingly, designed for a single purpose.

> 'The vintage test CDs all had their own virtues'

An example of the latter came from cable brand Purist Audio Design, with its *30 Minute System Enhancer CD*. This was exclusively for burning in your entire system in a half-hour, a boon especially when adding a new component. In a similar vein was Densen's *DeMagic*, which achieved its similar 'magic' in a somewhat shorter three minutes.

Although concerned solely with burn-in, they weren't alone in valuing this capability, as a number included it on test CDs with other functions. Phono Music in Germany produced *Power Disc*, with burn-in as Track 1, followed by surround sound tests and a set of frequency tones. More famous was the Sheffield Lab/XLO collaboration, *The Sheffield/XLO Test & Burn-In CD* [10041-2-T], which 'Demagnetises your system, burns in cables, components and speakers'.

Sister journal *Stereophile* produced a test disc modelled after the *Hi-Fi News* CDs – not surprisingly given that our then-editor John Atkinson initiated the *HFN* discs and then moved on to *Stereophile* in 1985. Many hi-fi brands and labels, including Technics, B&O, Chesky, Telarc, *et al*, issued music samplers with listening notes, while Mobile Fidelity offered both music samplers without tests and a series of test CDs.

Most serious from a technician's viewpoint was the *IASCA/Mobile Fidelity Sound Lab Certified Test Compact Disc* [Gold UltraDisc SPCD-7]. This mixed music and test signals, and MoFi also produced two *Sound Check* CDs with music legend Alan Parsons and Stephen Court [respectively SPCD 15 and SPCD 17], again providing tones and music. Parsons would also release the first *Sound Check* for Sound Check Productions: same tracks, different artwork.

There are dozens more; however, the aforementioned release from PS Audio has increased user-friendliness, as the accompanying notes (or the full book if you're ambitious) are like having a conversation with PS Audio's co-founder, Paul McGowan. What arrived to trigger this column was the second in his series. Its title and content suggest more to come.

A TRICK OR TWO

The Audiophile's Guide: The Loudspeaker is a 168-page book [*HFN* Apr '23], the SACD with same name and artwork [Octave Records OCT0021] a 19-track regimen of tests using tones, sound effects, individual instruments and music tracks. What lifts this above all the others are the instructions.

McGowan has proven to be, over the nearly four decades I've known him, one of the most articulate designers/audiophiles in the industry, up there with the now departed trio of Tim de Paravicini, Dave Wilson and Arnie Nudell of Infinity and Genesis. If you're a seasoned enthusiast, the hand-holding might seem unnecessary, but I defy anyone not to learn at least one killer setup trick from McGowan.

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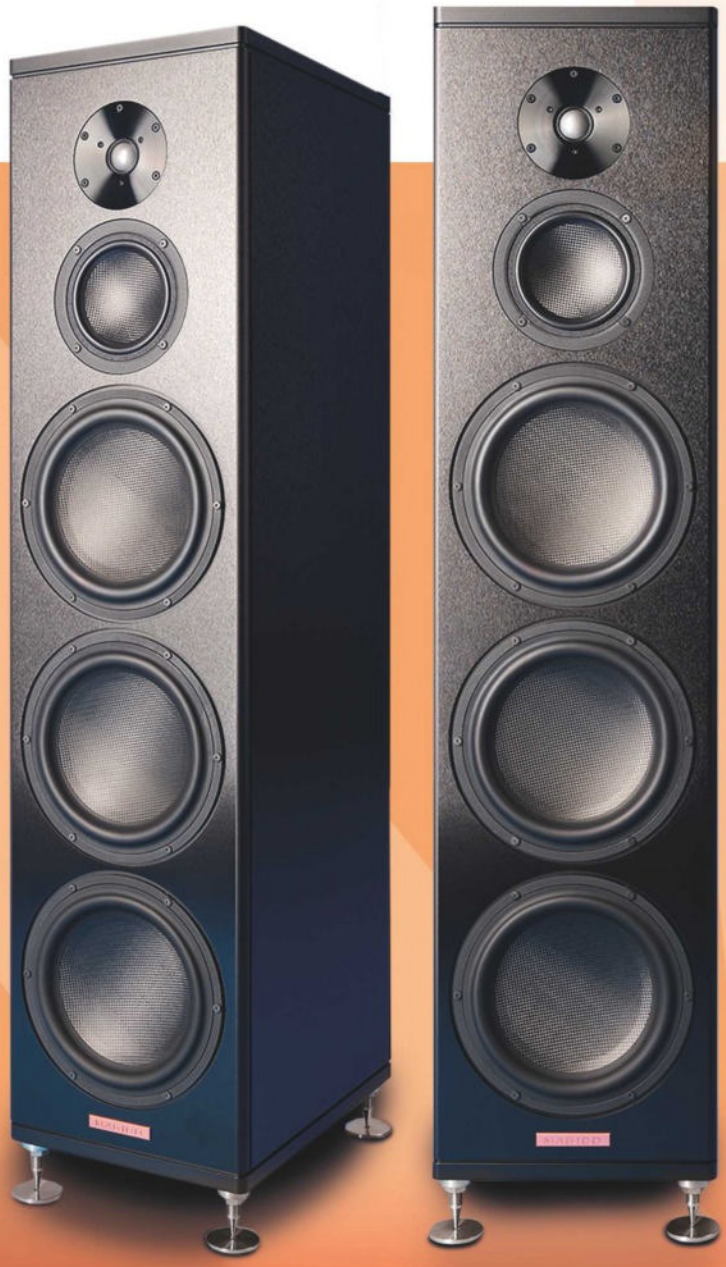

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